Ms. Tinka Hyde
Water Division Director
EPA Region 5
77 W. Jackson Blvd.
Chicago, IL 60604

June 20, 2016

Re: Kewaunee County drinking water

Dear Ms. Hyde,

Thank you in advance for taking the time to travel to Kewaunee County, WI to meet with citizens to discuss the plan for cleaning up the private drinking water supply there. We genuinely appreciate the time and effort that EPA has put in to working with the Wisconsin Department of Natural Resources on this issue. However, the undersigned have substantial and growing concerns about the DNR's slow and inadequate response on this issue. Recent well testing confirms widespread contamination of residents' private drinking water wells, yet there is still no response to our requests to provide residents with clean drinking water immediately, study the source of contamination, or enforcement actions against the polluters responsible for the groundwater contamination.

We would like to reiterate our request for a face-to-face meeting between petitioners and the EPA to discuss the progress of the petition and the status of the groundwater contamination in Kewaunee County. Please contact Elizabeth Wheeler of Clean Wisconsin or Sarah Geers of Midwest Environmental Advocates to arrange for the meeting. Our contact information is below.

Enclosed are recent reports showing the severity of the problem, including the problem of DNR's lack of consistent enforcement of its own regulations. A recently-released Legislative Audit Bureau report (enclosed) indicates that DNR follows its own enforcement procedures less than 6% of the time. This statistic is deeply concerning given the extent of the problem we are facing in Kewaunee County.

We are providing you with these materials in advance of Thursday's meeting because we hope that EPA will address the public's concerns about these troubling reports at that time. Aggressive implementation of the workgroup recommendations will be necessary to deliver clean water to residents and hold the polluters that have caused contamination accountable. We are concerned that given recent reports of DNR's track record on administering clean water programs, DNR will not have adequate funding or license to provide the type of emergency relief that we requested 20 months ago from EPA concerning this situation. We look forward to hearing more from you on Thursday.

Sincerely,

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enclosures

Report 16-6
June 2016

Wastewater Permitting and Enforcement

Department of Natural Resources

STATE OF WISCONSIN

Legislative Audit Bureau

Report 16-6
June 2016

Wastewater Permitting and Enforcement

Department of Natural Resources

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Report 16-6
June 2016

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STATE OF WISCONSIN
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Joe Chrisman
State Auditor

June 3, 2016

Senator Robert Cowles and
Representative Samantha Kerkman, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Cowles and Representative Kerkman:

As directed by the Joint Legislative Audit Committee, we have completed a review of the permitting and oversight of municipal wastewater treatment plants, industrial wastewater treatment facilities, and large livestock farms known as concentrated animal feeding operations (CAFOs) by the Department of Natural Resources (DNR). From 2005 through 2014, the number of municipal and industrial permittees decreased from 1,051 to 992 (5.6 percent), while the number of CAFO permittees increased from 146 to 264 (80.8 percent). DNR spent an estimated $10.4 million for permitting and oversight activities in fiscal year (FY) 2014-15.

Permits that are not reissued before expiration are administratively extended and become part of a permit backlog. Staff of the Environmental Protection Agency (EPA) indicated that the size of a permit backlog is one indicator of how well a state's wastewater program is administered. From 2005 through 2015, DNR met its goal of having no more than a 10 percent backlog for municipal permits during 4 of these 11 years, but never met this goal for industrial permits. In addition, DNR met its goal of having no more than a 15 percent backlog for CAFO permits during 9 of these 11 years.

DNR policy establishes various enforcement actions that are based on the severity of permit violations. However, we found that DNR did not consistently follow its policies when issuing enforcement letters, known as notices of violation, to municipal and industrial permittees. From 2005 through 2014, DNR issued notices of violation in 5.9 percent of the instances in which they should have been issued based on DNR's policies. We also found the extent to which these letters were issued varied among DNR's five regions, as did the frequency with which DNR took enforcement actions for CAFO permittees. We make recommendations to improve program administration, better align DNR's enforcement practices with its policies, and increase regulatory consistency among its regions.

We appreciate the courtesy and cooperation extended to us by DNR, EPA, permittees, professional organizations representing permittees, and environmental advocacy organizations. A response from DNR follows the appendices.

Respectfully submitted,

Joe Chrisman
State Auditor

JC/PS/ss

Report Highlights ■

Expenditures for the WPDES program increased from $9.3 million in FY 2005-06 to $10.4 million in FY 2014-15.

We found that permits for 41 permittees (2.9 percent) had been backlogged for six or more years.

DNR inspected 17 CAFO permittees (6.5 percent) after their permits had already been reissued.

Enforcement actions taken by DNR for municipal and industrial permittees showed a general decline from 2005 through 2014.

We found that DNR issued a notice of violation for only 33 of the 558 instances (5.9 percent) for which such a notice should have been issued based on its policies.

The Department of Natural Resources (DNR) administers the Wisconsin Pollutant Discharge Elimination System (WPDES) program, which regulates the discharge of pollutants to surface water and groundwater. As part of its responsibility, DNR is required to ensure that approximately 1,250 municipal wastewater treatments plants, industrial wastewater treatment facilities, and large livestock farms known as concentrated animal feeding operations (CAFOs), are complying with the terms of their permits. WPDES permits, which are issued for five-year periods, typically place limits on the type and concentration of pollutants that may be discharged, place ongoing monitoring and reporting requirements on permittees, and establish requirements for practices such as waste collection systems and land application procedures for manure.

At the request of the Joint Legislative Audit Committee, we reviewed:

- trends in the number of permittees, revenues, expenditures, and DNR staffing for permitting and oversight activities;
- DNR's timeliness in issuing permits;
- DNR's compliance with statutory and administrative rule requirements;

- the compliance of regulated entities with permit requirements;
- DNR's monitoring and oversight activities; and
- the consistency and appropriateness of DNR's enforcement actions.

Expenditures

Expenditures for the WPDES program increased from $9.3 million in fiscal year (FY) 2005-06 to $10.4 million in FY 2014-15, or by 11.7 percent. In both years, salaries and fringe benefits comprised over 90 percent of total program expenditures. Expenditures for the WPDES program are funded by a combination of state, federal, and program revenue.

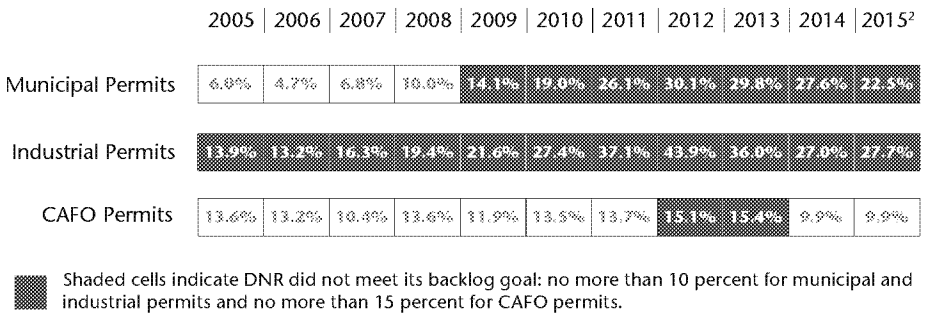
Permitting Process

Staff of the Environmental Protection Agency (EPA) indicated that the size of a permit backlog is one indicator of how well a state's wastewater program is administered. Permits that are not reissued before they expire are administratively extended and become part of a backlog. DNR has established a goal to limit its WPDES permit backlog to no more than 10 percent for both municipal and industrial permits and to no more than 15 percent for CAFO permits.

From 2005 through 2015, DNR met its goal of having no more than a 10 percent backlog for municipal permits for 4 of these 11 years, but never met this goal for industrial permits. In addition, DNR met its goal of having no more than a 15 percent backlog for CAFO permits for 9 of the 11 years we reviewed, as shown in Figure 1.

Figure 1

Permit Backlog[1]



Shaded cells indicate DNR did not meet its backlog goal: no more than 10 percent for municipal and industrial permits and no more than 15 percent for CAFO permits.

[1] Based on July of each year.

[2] Based on unaudited data reported by DNR.

Monitoring and Oversight

It is DNR's goal to inspect major municipal and industrial permittees at least once every two years, inspect minor municipal and industrial permittees at least twice during each five-year permit term, and inspect CAFO permittees at least twice during each five-year permit term.

The extent to which DNR met its goal for inspecting major municipal permittees declined from a high of 92 percent during the two-year period from 2005 through 2006 to a low of 45 percent during the two-year period from 2010 through 2011. The percentage of major industrial permittees inspected at least once within each two-year period declined from a high of 95 percent during the two-year period from 2005 through 2006 to a low of 21 percent during the two-year period from 2010 through 2011. Inspections for both types generally increased thereafter.

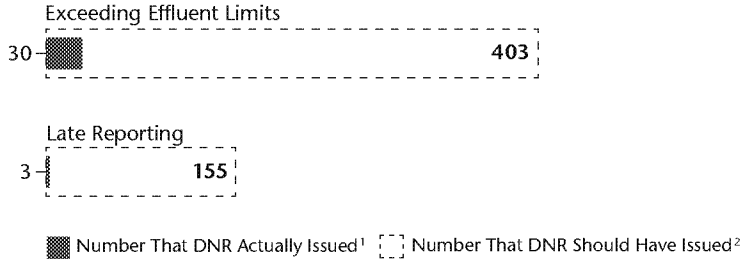
We found that although the extent to which DNR met its goal for CAFO inspections increased from 2005 through 2014, the percentage never exceeded 48 percent during this period. We also found significant differences in the extent to which DNR achieved its inspection goals for municipal, industrial, and CAFO permittees among its five regions.

Enforcement Efforts

We assessed DNR's compliance with its policies for determining when notices of violation "should be issued" in response to violations of the amount of pollutants discharged in treated wastewater, which is known as effluent, and for late reporting by municipal and industrial permittees. As shown in Figure 2, we found that DNR issued notices of violation for only 33 of the 558 instances (5.9 percent) for which a notice of violation should have been issued from 2005 through 2014. Moreover, of the 33 notices of violation that DNR issued, 17 (51.5 percent) did not address all of the effluent and reporting violations for which a notice of violation should have been issued. The extent to which notices of violation were issued in accordance with its policies among DNR's five regions also varied.

Figure 2

Selected Notices of Violation for Municipal and Industrial Permittees
2005 through 2014



[1] Includes 16 notices of violation that addressed all of the violations for which a notice should have been issued and 17 notices that addressed only some of the violations for which a notice should have been issued.

[2] Based on the criteria established in DNR's policies.

We also found the percentage of CAFO permittees for which DNR took at least one enforcement action from 2005 through 2014 ranged from 17.6 percent in the Northern Region to 56.8 percent in the Northeast Region. The Northeast Region was an outlier and 19 of the 20 CAFO permittees for which DNR took five or more enforcement actions were located in this region.

Future Considerations

Several ongoing issues may affect the future administration and cost to permittees of the WPDES program. First, in response to an EPA request and pressure from several environmental organizations, DNR established a new process for calculating phosphorus limits. In October 2015, the Department of Administration (DOA) directed DNR to request a statewide multi-discharger variance from EPA because DOA estimated the cost to comply with the phosphorus limits, as promulgated, would total at least $3.4 billion in capital investments, with additional debt service and operating costs of up to $700 million per year.

Second, after conducting a legal review of the WPDES program, EPA's Region 5 administrator issued a letter to DNR in July 2011 that identified 75 issues with the statutes and rules governing the program that EPA indicated needed to be addressed. Of the 64 issues affecting the municipal, industrial, and CAFO permittees included in our review, we found 33 (51.6 percent) were addressed as of April 2016, and an additional 31 (48.4 percent) were in the process of being addressed.

Third, testing of wells in Kewaunee County has found unsafe levels of nitrates and bacteria, including a DNR-funded study that in November 2015 found that 34.4 percent of tested wells were contaminated. DNR formed five workgroups to study the issue, and it expects to receive the recommendations in June 2016.

Recommendations

We include recommendations for DNR to require its staff to electronically record the dates that annual reports submitted by CAFO permittees are received and to thoroughly review these reports *(p. 44)*.

We further recommend DNR report to the Joint Legislative Audit Committee by November 1, 2016, on the status of its efforts to:

- ☑ make CAFO application materials easily accessible through its website *(p. 32)*;
- ☑ develop and implement a plan to further reduce the WPDES permit backlog *(p. 37)*;
- ☑ regularly assess its performance in conducting inspections and improve its performance in meeting inspection goals *(pp. 48* and *50)*;

- ☑ ensure that records of all inspections and determinations of substantial compliance are electronically recorded, that permittees are inspected within 12 months of expiration of their current permits, and that permittees are determined to be in substantial compliance with the terms of their permits before reissuance, as required by statutes *(p. 57)*;

- ☑ regularly assess its performance in issuing notices of violation and develop a strategy to increase the consistency between its enforcement policies and its actual practice of issuing notices of violation *(p. 73)*;

- ☑ assess the regional variation in enforcement actions for CAFO permittees and provide training where needed *(p. 75)*;

- ☑ request a statewide multi-discharger variance for phosphorus limits from EPA, as directed by DOA *(p. 81)*;

- ☑ address the issues identified in EPA's July 2011 letter that had not been addressed as of April 2016 *(p. 81)*; and

- ☑ address groundwater contamination issues in Kewaunee County and the recommendations of its workgroups *(p. 83)*.

■ ■ ■ ■

Introduction

EPA delegated wastewater permitting authority to Wisconsin in 1974.

The Federal Water Pollution Control Act of 1948 was the first major piece of federal legislation to regulate water pollution in the United States. In 1972, the law was amended and gave EPA the authority to implement water pollution control programs. From that point, the law commonly became known as the Clean Water Act. The Clean Water Act requires those discharging to the waters of the nation to receive a permit limiting the pollutants they may discharge and makes them subject to civil and criminal penalties for permit violations. EPA has generally delegated primary permitting responsibilities under the Clean Water Act to the states. Wisconsin is delegated permitting authority through a 1974 memorandum of understanding between DNR and EPA.

Chapter 283, Wis. Stats., grants DNR "all authority necessary to establish, administer and maintain" a WPDES program consistent with the requirements established under the Clean Water Act. It also establishes that it is the State's policy "to restore and maintain the chemical, physical, and biological integrity of its waters to protect public health, safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, agricultural, and other uses of water."

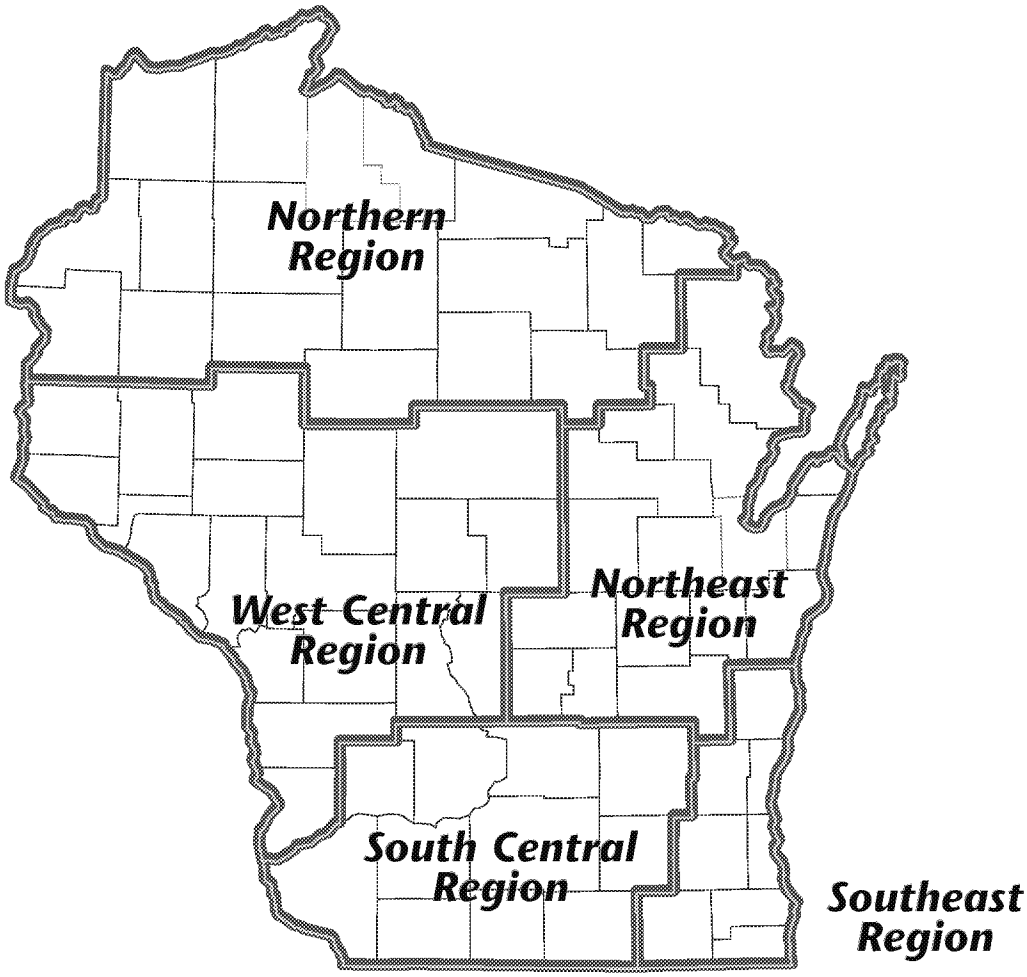
Water pollution comes from both nonpoint sources, such as runoff from farm fields, city streets, and parking lots; and from point sources, which are discrete facilities generating wastewater, such as municipal wastewater treatments plants, paper mills, electric power generating facilities, and large livestock farms. The WPDES program exclusively regulates point sources of pollution. Examples of

common pollutants DNR regulates through the WPDES program and examples of the potential effects on the environment and human health are shown in Appendix 1.

WPDES permits are generally issued and monitored by staff located in DNR's regional offices. Figure 3 shows DNR's five regions.

Figure 3

DNR Regions



Types of Permits and Regulated Activities

DNR issues both general and individual WPDES permits.

Through the WPDES program, DNR issues both general and individual permits. General WPDES permits are currently issued for 24 types of activities, such as the land application of industrial

sludge; pesticide application for the control of aquatic plants, algae, and bacteria; nonmetallic mining; and some large dairy farms. In contrast, individual WPDES permits are site-specific permits issued to municipal and industrial facilities discharging wastewater and to large livestock farms.

Farms with 1,000 or more animal units are required to obtain a WPDES permit.

Farms with 1,000 or more animal units, which are known as concentrated animal feeding operations (CAFOs), are required to obtain a WPDES permit. One animal unit is the equivalent of 1,000 pounds of animal weight. In general, 1.0 animal unit is the equivalent of 81 laying chickens, 56 turkeys, or 1 mature beef cow. Milking cows are equivalent to 1.43 animal units each. Unlike other types of facilities, dairy farms with 1,000 or more animal units but fewer than 5,721 animal units may apply to be permitted under the general WPDES permit that DNR has established for CAFOs or they may apply for individual CAFO permits. However, we found that most farms that qualify to be included in the general CAFO permit instead apply for individual permits because the requirements are largely similar for both permit types. Some permittees also indicated they were concerned about potential changes that DNR may make to its general permit for large dairy farms. The general CAFO permit expired in March 2016, and DNR indicated that it is working on a new general CAFO permit draft that it plans to submit to EPA later in 2016. All farms currently covered by the general CAFO permit will have their coverage administratively extended, but no new farms will be permitted under the general permit until it is re-approved.

We focused our review on three types of point source pollution dischargers that typically receive individual permits and are subject to more extensive regulatory requirements, such as monitoring the amounts of specific pollutants discharged into surface water and groundwater. These dischargers include:

- municipal wastewater permittees, which process municipal sewer waste before discharging the treated wastewater, known as effluent, into surface waters;

- industrial wastewater permittees, which discharge wastewater created in producing goods, such as paper and cheese, or generating steam electric power; and

- CAFO permittees, which are farms with 1,000 or more animal units that are confined on site for more than 45 days within a 12-month period and to which feed is brought rather than having the animals graze in pastures and fields.

Municipal and industrial permittees are subdivided into major and minor dischargers. A major municipal permittee is one with an average discharge of 1.0 million gallons per day or more. For industrial permittees, the distinction between major and minor is based on a calculation involving both the volume and potential toxicity of the pollutants discharged. CAFO permittees are not categorized into major and minor categories.

From December 2005 to December 2014 the number of major municipal, major industrial, and CAFO permittees increased.

Because WPDES permits are issued for five-year periods, we analyzed data for the ten-year period from 2005 through 2014, which was the most recently completed year at the time of our fieldwork. This provided an opportunity to review most permittees over two five-year permit periods. As shown in Table 1, the number of minor municipal and minor industrial permittees declined from December 2005 to December 2014, while the number of major municipal, major industrial, and CAFO permittees increased. Appendix 2 shows the distribution of municipal, industrial, and CAFO permittees throughout the state in December 2014.

Table 1

WPDES Permittees

Type	December 2005	December 2014	Percentage Change
Municipal Wastewater Permittees			
Major Facilities	86	87	1.2%
Minor Facilities	580	560	(3.4)
Subtotal	666	647	(2.9)
Industrial Wastewater Permittees			
Major Facilities	39	41	5.1
Minor Facilities	346	304	(12.1)
Subtotal	385	345	(10.4)
CAFO Permittees			
Dairy Farms with Individual Permits[1]	122	205	68.0
Dairy Farms with General Permits	0	28	–
Beef, Swine, and Poultry Farms	24	31	29.2
Subtotal	146	264	80.8
Total	**1,197**	**1,256**	4.9

[1] Includes dairy farms that also raise beef, swine, or poultry.

Industrial permittees can also be grouped into categories based on industry type. In December 2014, 106 (30.7 percent) of the 345 industrial permittees were involved in dairy production and processing, as shown in Table 2.

Table 2

Industrial Permittees, by Type
December 2014

Industry Categories	Number	Percentage
Dairy Production and Processing	106	30.7%
Food Production and Processing	60	17.4
Energy Production	39	11.3
Wood and Paper Production	39	11.3
Chemicals, Metals, and Industrial Production	37	10.7
Agriculture and Aquaculture	33	9.6
Transportation	8	2.3
Other[1]	23	6.7
Total	**345**	**100.0%**

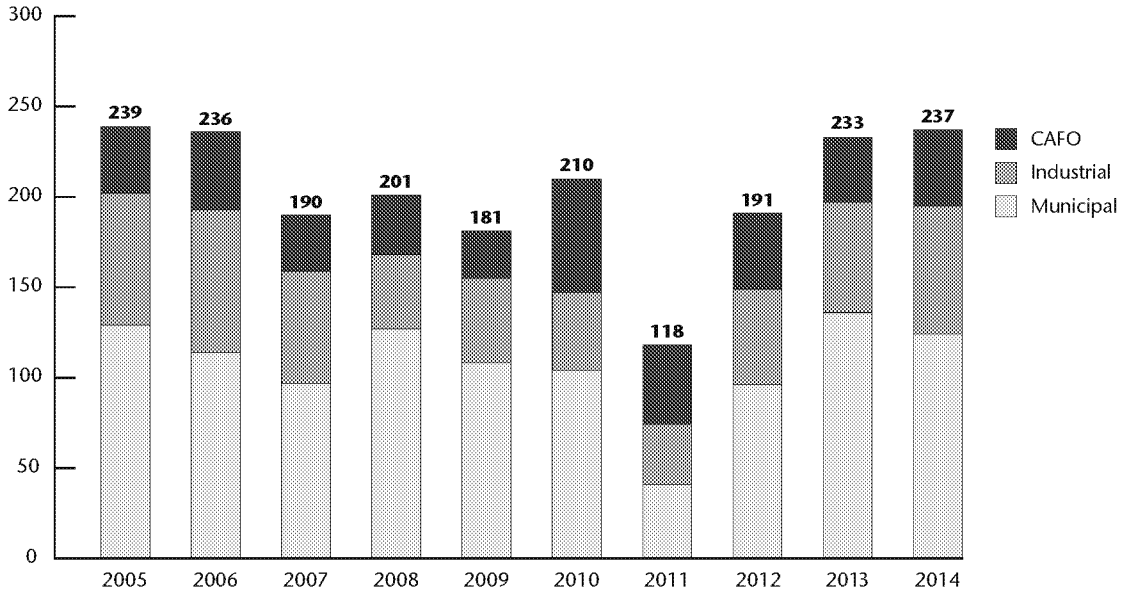
[1] Includes permittees with on-site wastewater treatment, such as mobile home parks, recreational facilities, and environmental remediation sites.

The number of WPDES permits issued by DNR each year, which includes the reissuance of existing permits, has fluctuated over time.

As shown in Figure 4, the number of WPDES permits issued by DNR each year, which includes the reissuance of existing permits, has fluctuated over time. The number declined from 239 in 2005 to 118 in 2011, but increased to 237 in 2014. The largest annual decrease in the number of permits issued occurred in 2011, which DNR attributes primarily to staff retirements in that year and the time taken by DNR to modify permit requirements as a result of administrative rules that became effective in 2010.

Figure 4

Number of WPDES Permits Issued by DNR[1]



[1] Includes both first-time permit issuances and reissuances of existing permits.

The municipal, industrial, and CAFO permittees regulated under the WPDES program have the potential to affect the quality of Wisconsin's surface water and groundwater. However, water quality is also affected by processes and activities that generally do not require WPDES permits but likely have significant effects on water quality, such as runoff from highways, streets, parking lots, and other paved areas; lawn fertilizer application; and most agricultural activities, including those of farms with fewer than 1,000 animal units. Given these other sources of pollution, we did not attempt to assess the effect of the WPDES program on Wisconsin's water quality but instead focused our efforts on assessing program management, including DNR's compliance with state and federal program requirements.

■ ■ ■ ■

Expenditures and Staffing ■

Expenditures for the WPDES program are funded by a combination of state, federal, and program revenue and grew by 11.7 percent over the past ten years, primarily as a result of additional DNR staff working on CAFO-related permitting activities. From FY 2005-06 through FY 2014-15, expenditures associated with CAFO permittees increased 124.5 percent. We analyzed revenue generated by fees and found that 98.3 percent of annual permittee fees were paid to DNR within 90 days of their due dates. We also found that turnover among staff responsible for issuing permits and monitoring permittee compliance increased from approximately 6 percent in FY 2005-06 to approximately 20 percent in FY 2014-15.

Expenditures

The primary funding sources for the WPDES program are general purpose revenue (GPR), segregated revenue, and federal revenue. DNR does not record WPDES program expenditures in a manner that allowed us to easily separate those expenditures related to the municipal, industrial, and CAFO permittees included in our review from those of other WPDES program activities, such as the issuance of general permits for activities such as nonmetallic mining and pesticide discharges to control algae and aquatic plants. Therefore, we estimated expenditures based on the best information available.

Expenditures for the WPDES program increased from $9.3 million in FY 2005-06 to $10.4 million in FY 2014-15.

As shown in Table 3, expenditures for the WPDES program increased from $9.3 million in FY 2005-06 to $10.4 million in FY 2014-15, or by 11.7 percent. GPR represented the largest funding source and accounted for more than 45 percent of total expenditures in both years. The largest monetary change during this period was a $0.9 million (37.3 percent) increase in expenditures funded by segregated revenue.

Table 3

WPDES Program Expenditures, by Funding Source[1]

Funding Source	FY 2005-06	FY 2014-15
General Purpose Revenue	$4,522,000	$ 4,699,000
Segregated Revenue[2]	2,514,000	3,452,000
Federal Revenue	2,180,000	2,118,000
Program Revenue[3]	87,000	127,000
Total	**$9,303,000**	**$10,396,000**

[1] Represents estimated WPDES program expenditures associated with the municipal, industrial, and CAFO permitting and oversight activities included in our review.

[2] Includes revenue primarily from the repayment of Clean Water Fund loans, solid waste tipping fees, grants, and annual fees for land application of sludge and discharges made through land treatment systems.

[3] Includes revenue generated by fees paid for certification of wastewater facility operators, and $95 from each $345 annual CAFO permit fee.

From FY 2005-06 through FY 2014-15, expenditures related to CAFO permittees increased by $1.3 million (124.5 percent).

We also analyzed expenditures by permittee type, but DNR does not record WPDES program expenditures in a manner that allowed us to separate expenditures associated with municipal and industrial permittees. As shown in Table 4, expenditures related to municipal and industrial permittees declined by $0.2 million (2.9 percent) from FY 2005-06 through FY 2014-15. In contrast, expenditures related to CAFO permittees increased by $1.3 million (124.5 percent). This is likely the result of growth in the number of CAFOs during this period.

Table 4

WPDES Program Expenditures, by Permittee Type[1]

Permittee Type	FY 2005-06	FY 2014-15	Percentage Change
Municipal and Industrial	$8,233,000	$ 7,994,000	(2.9)%
CAFO	1,070,000	2,402,000	124.5
Total	**$9,303,000**	**$10,396,000**	11.7

[1] Represents estimated WPDES program expenditures associated with the municipal, industrial, and CAFO permitting and oversight activities included in our review.

From FY 2005-06 through FY 2014-15, expenditures for permitting increased by 6.5 percent, while expenditures for compliance and enforcement declined by 2.8 percent.

Salaries and fringe benefits comprised over 90 percent of total program expenditures in both FY 2005-06 and FY 2014-15. We examined expenditures for the WPDES program by activity, as shown in Table 5. From FY 2005-06 through FY 2014-15, expenditures for permitting activities, such as reviewing application materials and issuing permits, increased by $252,000 (6.5 percent), while expenditures related to compliance and enforcement declined by $111,000 (2.8 percent). DNR staff indicated the increase in expenditures for administration and policy development is, in part, the result of DNR's efforts to respond to a list of EPA issues about the WPDES program.

Table 5

WPDES Program Expenditures, by Activity[1]

Activity	FY 2005-06	FY 2014-15	Percentage Change
Permitting	$3,850,000	$ 4,102,000	6.5%
Compliance and Enforcement	3,912,000	3,801,000	(2.8)
Administration and Policy Development	1,062,000	1,671,000	57.3
Education and Assistance	284,000	531,000	87.0
Information Technology	195,000	291,000	49.2
Total	**$9,303,000**	**$10,396,000**	11.7

[1] Represents estimated WPDES program expenditures associated with the municipal, industrial, and CAFO permitting and oversight activities included in our review.

Fee Revenue

Chapter NR 101, Wis. Adm. Code, specifies the annual fees to be paid by municipal and industrial permittees. The primary annual fee paid by these permittees, which is deposited in the State's General Fund, is the greater of either:

- a flat fee of $500 for a major discharger and $250 for a minor discharger; or
- a calculated discharge fee based on a five-year rolling average of the amount of certain pollutants the permittee discharges.

An additional annual fee of $100 to $200 is required if a municipal or industrial permittee applies sludge to land or discharges wastewater to a land treatment system, such as an irrigation system. In 2015, 511 municipal and industrial permittees (51.7 percent) paid this additional fee for activities they conducted in 2014. The additional fee is deposited in the Environmental Fund's Environmental Management Account, which is primarily funded by solid waste tipping fees. The additional fee represented only 0.1 percent of the revenues deposited in this account in FY 2013-14.

Unlike municipal and industrial permittees, all CAFO permittees pay the same annual fee, which is currently $345.

Unlike municipal and industrial permittees, all CAFO permittees pay the same annual fee amount. Until July 2009, CAFOs paid an annual fee of $250, which was equal to the minimum flat fee charged to municipal and industrial permittees with minor discharges. Through FY 2008-09, this entire fee amount was deposited in the State's General Fund. 2009 Wisconsin Act 28, the 2009-2011 Biennial Budget Act, increased the annual CAFO fee to $345 and directed that $250 of each fee payment continue to be deposited in the State's General Fund, but that $95 of each payment be deposited in DNR's general operations appropriation for management of the State's water resources.

Table 6 shows the fee revenue collected from municipal, industrial, and CAFO permittees from FY 2005-06 through FY 2014-15. Total fee revenues have fluctuated over time, but there has been a general downward trend in the amount collected over this period. This is likely due to two factors. First, the number of industrial permittees declined 10.4 percent from 385 in 2005 to 345 in 2014. Second, because discharge fees paid by some municipal and industrial permittees are based on the amount of pollutants discharged, as treatment processes have improved over time and removed more pollutants from permittees' effluent, the total amount of fees paid by some permittees has also declined. The average fees paid by municipal and industrial permittees, including fees for discharging to land treatment systems or the application of sludge, decreased by

11.1 percent from an average of $6,920 in 2005 to an average of $6,150 in 2015.

Table 6

Fee Revenue from Municipal, Industrial, and CAFO Permittees

Fiscal Year	Deposited in the General Fund[1]	Deposited in the Environmental Management Account of the Environmental Fund[2]	Deposited in DNR's General Operations Appropriation for Management of the State's Water Resources[3]	Total
2005-06	$ 6,104,000	$ 65,300	–	$ 6,169,300
2006-07	6,573,600	69,500	–	6,643,100
2007-08	7,483,100	66,900	–	7,550,000
2008-09	6,572,700	73,600	–	6,646,300
2009-10	6,216,200	75,400	$ 16,300	6,307,900
2010-11	5,807,700	71,600	19,200	5,898,500
2011-12	6,089,000	72,000	21,200	6,182,200
2012-13	5,139,400	63,100	22,000	5,224,500
2013-14	6,080,500	58,000	22,100	6,160,600
2014-15	5,334,200	50,900	21,000	5,406,100
Total	**$61,400,400**	**$666,300**	**$121,800**	**$62,188,500**

[1] Includes all WPDES municipal and industrial discharge fees, as well as $250 from each annual CAFO permit fee.

[2] Includes WPDES program fees for land application of sludge and for discharges made to land treatment systems. The Environmental Management Account primarily supports financial assistance for local government recycling efforts, brownfields grant programs, DNR's groundwater-related programs, remediation of contaminated lands, and the University of Wisconsin System's Bioenergy Initiative.

[3] Represents $95 from each $345 annual CAFO permit fee. Before FY 2009-10, each $250 annual CAFO permit fee was deposited in the General Fund.

Permittee Billing

From 2005 through 2014, WPDES permittees made timely annual fee payments 81.0 percent of the time.

DNR consolidates fees charged to individual permittees under the WPDES program and issues each permittee one bill each year. We analyzed the timeliness with which permittees submitted their payments from 2005 through 2014 and found that permittees paid their fees by their due dates 81.0 percent of the time, as shown in Table 7. However, 114 payments made by 77 permittees totaling $558,200 were made 180 or more days after they were due. We found that DNR had also not received any payments from seven permittees for an additional 18 bills totaling $147,800 through August 2015.

Table 7

Timeliness of WPDES Annual Fee Payments
Billed from 2005 through 2014

	Number of Payments[1]	Percentage
Paid On Time	9,634	81.0%
Paid 1 to 89 Days Late	2,052	17.3
Paid 90 to 179 Days Late	69	0.6
Paid 180 or More Days Late	114	1.0
No Payment Received[2]	18	0.2
Total	**11,887**	**100.0%**

[1] Includes all payments of annual bills received through August 2015.

[2] Includes 18 annual fee payments not made by seven permittees.

Eleven permittees paid their bills more than two years late.

The longest time period between billing and payment was for 15 payments made by 11 permittees that paid their bills more than two years late, including 5 industrial permittees, 4 municipal permittees, and 2 CAFO permittees. The length of time these 15 payments were late ranged from 25 months for one municipal permittee in Vilas County to approximately five years for one industrial permittee in Jefferson County.

For the seven permittees that had not paid a total of 18 bills through August 2015, the amount of time that had elapsed since their payments were due ranged from one to eight years and included $144,100 owed by three industrial permittees, $3,100 owed by three CAFO permittees, and $570 owed by one municipal permittee. For example:

- An industrial permittee in Price County owed $90,600 for unpaid permit fees from 2014. DNR indicated the permittee entered into a payment plan agreement with DNR and has begun making payments.

- A CAFO permittee in Brown County owed $1,700 from five consecutive years of unpaid fees from 2010 through 2014. DNR has referred this permittee to the Department of Revenue (DOR) for collection, as authorized by s. 71.93, Wis. Stats.

- A municipal permittee in Sheboygan County owed $570 from unpaid fees in 2013 and 2014. DNR indicated that the permittee has recently paid the amount owed.

In 2015, DNR began referring municipal, industrial, and CAFO permittees to DOR for collection of unpaid fees.

DNR staff indicated that in 2015 they began referring municipal, industrial, and CAFO permittees to DOR for collection of unpaid fees. Through January 2016, DNR had referred four of the seven permittees that had not paid their bills through August 2015 to DOR for collection. Of the remaining three permittees, one subsequently paid its outstanding bill, one entered into a payment plan with DNR, and one was in the process of having its debt written off by DNR due to bankruptcy.

Staffing

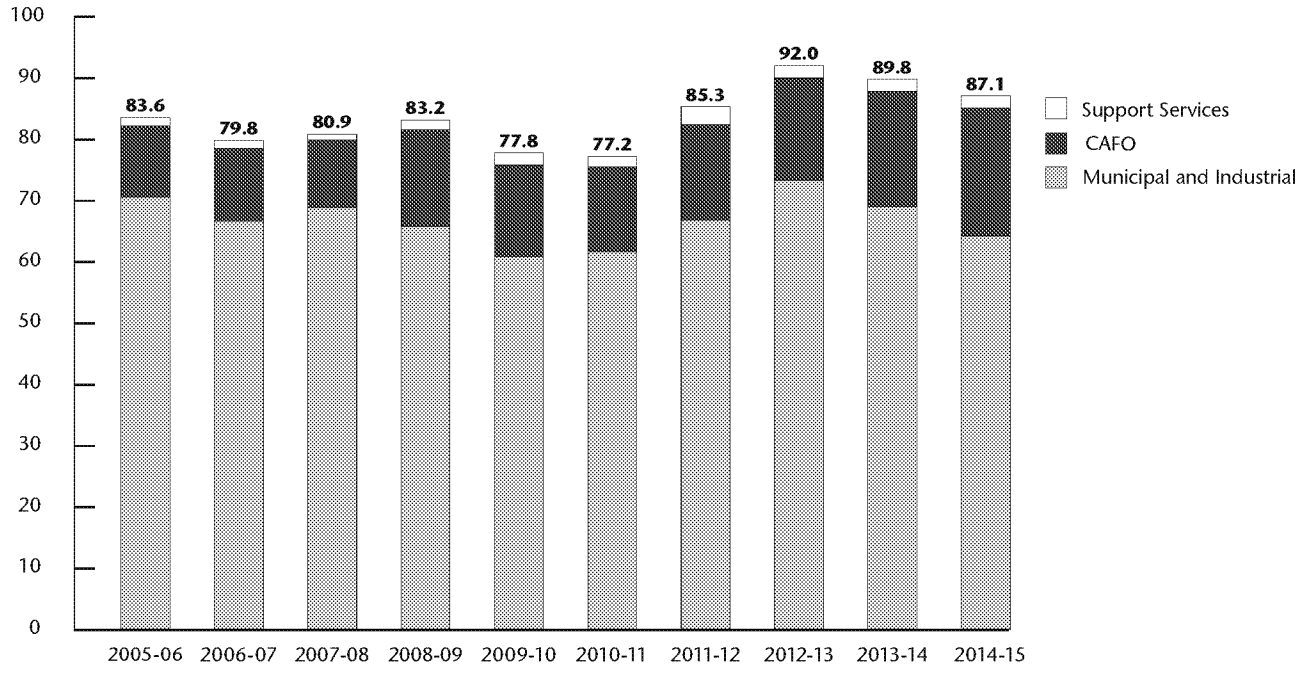
Based on time codes used by DNR staff to record their daily work effort, we estimated the number of full-time equivalent (FTE) positions working on municipal, industrial, and CAFO permitting and oversight activities. This includes time spent by both permanent and limited-term employees, as well as employees who provide support services, such as those who maintain DNR's information technology systems. Similar to our expenditure analyses, some of the time spent by DNR staff is associated with activities beyond the scope of our review that could not be separated.

Work effort declined from 83.6 FTE positions in FY 2005-06 to a low of 77.2 FTE positions in FY 2010-11 and totaled 87.1 FTE positions in FY 2014-15.

The amount of WPDES program work effort associated with municipal, industrial, and CAFO permitting and oversight activities can be represented as FTE positions. As shown in Figure 5, this work effort declined from 83.6 FTE positions in FY 2005-06 to a low of 77.2 FTE positions in FY 2010-11 and totaled 87.1 FTE positions in FY 2014-15. From FY 2005-06 through FY 2014-15, the number of staff working on CAFO activities increased by 9.3 FTE positions (80.2 percent), while staff working on municipal and industrial activities declined by 6.3 FTE positions (8.9 percent). This is largely consistent with the change in the number of permittees, which increased by 80.8 percent for CAFO permittees and declined by 5.6 percent for municipal and industrial permittees during this period.

Figure 5

Work Effort Represented in FTE Positions, by Functional Area[1]
(by fiscal year)



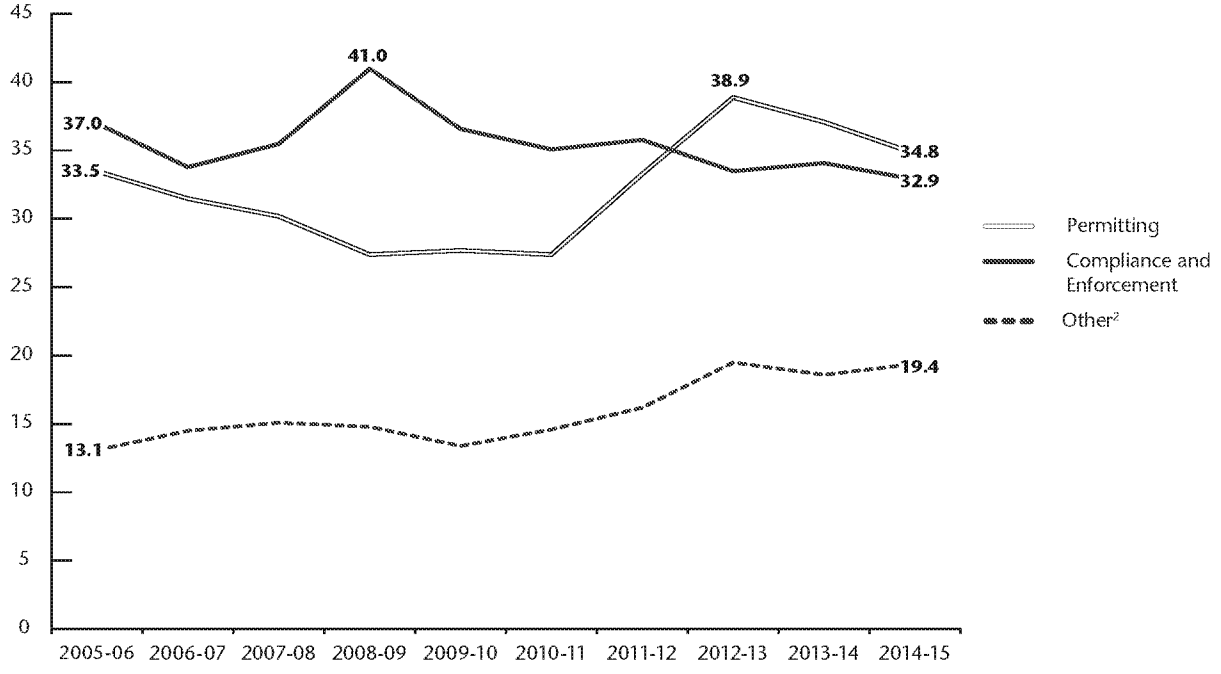
[1] Represents the work effort for municipal, industrial, and CAFO permitting and oversight activities represented as FTE positions. It is based on 1,720 hours of work time, which is the per-person amount DNR uses for planning purposes and excludes time for holidays, leave, and professional development.

From FY 2012-13 through FY 2014-15, the largest amount of staff time was devoted to permitting activities.

We also analyzed DNR staff effort associated with specific types of program activities. We found that a majority of staff time was devoted to two areas: permitting, which includes activities such as reviewing applications and drafting permits; and compliance and enforcement, which includes activities such as reviewing reports submitted by permittees and addressing permit violations. From FY 2005-06 through FY 2011-12, the largest amount of staff time was dedicated to compliance and enforcement activities, as shown in Figure 6. However, from FY 2012-13 through FY 2014-15, the largest amount of staff time was devoted to permitting activities. Compliance and enforcement activities peaked in FY 2008-09 and then subsequently declined.

Figure 6

Work Effort Represented in FTE Positions, by Activity Type[1]
(by fiscal year)



[1] Represents estimated FTE positions associated with municipal, industrial, and CAFO permitting and oversight activities.

[2] Includes activities related to permittee education and assistance, administration and policy development, and information technology systems support.

Excessive turnover can hamper DNR's ability to effectively and efficiently perform its regulatory responsibilities.

Effective administration of the WPDES program requires staff who possess a wide range of knowledge, including an understanding of complex technical areas involving wastewater engineering and of compliance with state and federal laws. Excessive turnover can hamper DNR's ability to effectively and efficiently perform its regulatory responsibilities. In addition, several of the permittees and interest groups with whom we spoke expressed concern regarding the level of experience among DNR staff responsible for drafting CAFO permits. Therefore, we analyzed changes in staffing levels, training provided to new staff, and other staff-related issues affecting the WPDES program.

Turnover

A major factor affecting staffing levels is turnover. Staff turnover has increased from:

- 6.2 percent in FY 2005-06 to 19.7 percent in FY 2014-15 for staff overseeing municipal and industrial permittees; and
- 6.3 percent in FY 2005-06 to 21.1 percent in FY 2014-15 for staff overseeing CAFO permittees.

The highest level of turnover for staff overseeing municipal and industrial permittees occurred in FY 2010-11, when 15 of 70 staff (21.4 percent) left their positions. The highest level of turnover for staff overseeing CAFO permittees occurred in FY 2006-07 and FY 2010-11, when 4 of 16 staff (25.0 percent) left their positions in each year. Table 8 shows the reasons for staff turnover that were recorded by DNR. The most common reason for turnover among staff overseeing municipal and industrial permittees was retirement, whereas the most common reason for staff turnover among those overseeing CAFO permittees was a transfer to a different position within DNR.

Table 8

Reasons Recorded by DNR for Staff Turnover
FY 2004-05 through FY 2014-15

Reason for Leaving Position	Staff Overseeing Municipal and Industrial Permittees	Staff Overseeing CAFO Permittees	Total
Transferred to a Different Position within DNR	29	19	48
Retirement	36	4	40
Left for Position Outside of DNR	10	4	14
Other[1]	5	–	5
Total	**80**	**27**	**107**

[1] Includes unspecified reasons and reasons such as returning to school and health issues.

Turnover has been an issue especially for DNR staff responsible for CAFO permitting and oversight.

Turnover has been an issue especially for DNR staff responsible for CAFO permitting and oversight activities. From FY 2005-06 through FY 2014-15, the average turnover rate among staff overseeing municipal and industrial permittees was 9.8 percent, while the average turnover rate among staff overseeing CAFO permittees was 14.5 percent. From FY 2005-06 through FY 2014-15, the number of regional staff positions responsible for overseeing CAFO permittees that were filled ranged from 7 to 10.5 during any point in time. A total of 30 individuals were responsible for CAFO-related activities from FY 2005-06 through FY 2014-15, and 11 (36.7 percent) had attained two or fewer years of experience in those positions during this 10-year period.

OSER denied a 2014 request by DNR to increase the salaries of at least seven staff members overseeing CAFO permittees.

To help reduce turnover among staff overseeing CAFO permittees, DNR submitted a request to the Office of State Employment Relations (OSER) in March 2014 to allow it to provide a $2.00 per hour add-on for at least seven staff members overseeing CAFO permittees. These staff members would be paid the add-on as long as they remained in their current positions. DNR argued the incentive was needed to limit the excessive turnover that was occurring in these positions, which hampered its ability to meet its statutory obligations. OSER denied the request because DNR had not paid its new CAFO staff up to the maximum amount permitted within their position classification when they were initially hired.

Training

An adequate training program is needed to ensure effective regulatory oversight and limit inefficiency of work effort, especially when high turnover is occurring. We spoke with DNR staff and examined documentation regarding the type of training provided to new WPDES program staff. According to DNR, it takes approximately two years for newly hired staff with prior relevant experience to become proficient in drafting permits and overseeing permittees, and up to five years for newly hired staff without prior relevant work experience to become proficient in these functions.

DNR indicated that newly hired WPDES program staff, such as wastewater engineers and wastewater specialists, receive training over the course of their first two years. This training typically includes:

- a one-week orientation during which new staff are given a program overview and are familiarized with available work resources and the program's policies and procedures;

- several partial- and full-day classroom sessions provided on subjects such as permit drafting, water sampling, enforcement, safety equipment, inspection strategies, spill response, and the laws applicable to administering the WPDES program;
- eight day-long training sessions covering topics in municipal and industrial wastewater, CAFOs, waterway protection, and storm water;
- training provided by outside organizations, such as the Wisconsin Rural Water Association and the Water Conservation Society, and a five-day permit writing course provided by EPA;
- on-the-job training specific to each staff member's work assignment, such as job shadowing for permit drafters and compliance staff; and
- a one-year mentorship program that pairs new staff with senior staff to help increase new staff members' professional knowledge and facilitate understanding of department operations and expectations.

Staff in the WPDES program indicated they were generally satisfied with the training they received.

We reviewed post-training surveys conducted by DNR. In general, staff indicated that they were satisfied with the training and mentoring DNR provided. For example, an October 2014 survey conducted by DNR assessing satisfaction with its eight day-long training sessions found that 25 of the 30 respondents (83.3 percent) rated the training sessions as "excellent" or "outstanding." In addition, 24 of 29 respondents to a December 2013 mentoring survey (82.8 percent) rated their experience in the mentoring program as "very valuable" or "valuable."

We also spoke to seven WPDES program staff throughout the state who completed training within the last four years. All seven indicated that their training had helped prepare them to work independently. For example, they reported feeling well prepared to independently perform their WPDES program compliance responsibilities after shadowing experienced staff or being accompanied by experienced staff during permittee inspections and site visits. In addition, staff with drafting responsibilities reported feeling moderately prepared or well prepared to independently perform their permit drafting duties after working with an experienced permit drafter as part of their initial permit drafting assignments.

■ ■ ■ ■

Permitting Process ■

The primary mechanism through which DNR carries out its responsibilities to regulate water pollution under state and federal law is by issuing WPDES permits to facility operators that discharge pollutants to surface water and groundwater. DNR is responsible for notifying the public of its intent to issue a permit and to allow for public comment, and we found that it consistently met this requirement. DNR also established goals to limit the percentage of permits that are administratively extended after their expiration dates. Although DNR generally met its goal for CAFO permits, it did not meet its goal for municipal and industrial permits. We recommend DNR report to the Joint Legislative Audit Committee on its efforts to reduce the backlog of permits waiting to be reissued.

Permit Application and Review

In order to initially begin discharging wastewater, facility operators must be issued a WPDES permit. Permit applications require the submission of detailed data, such as information on the pollutants to be discharged, methods for managing wastewater pollution, and the type and location of effluent monitoring to be conducted. Because of the complexity and technical nature of much of the information required for WPDES permit applications, facility operators often complete the application requirements with help from consultants, such as engineers to design facilities and processes to effectively handle the wastewater generated and, for CAFOs, agronomists to develop plans for the safe application of manure to fields and crops.

Applications vary by facility type and complexity of facility operations, but typically range in length from 15 to 30 pages, excluding supplemental documents appended to the applications.

Permit applicants are required to submit their materials at least 180 days in advance.

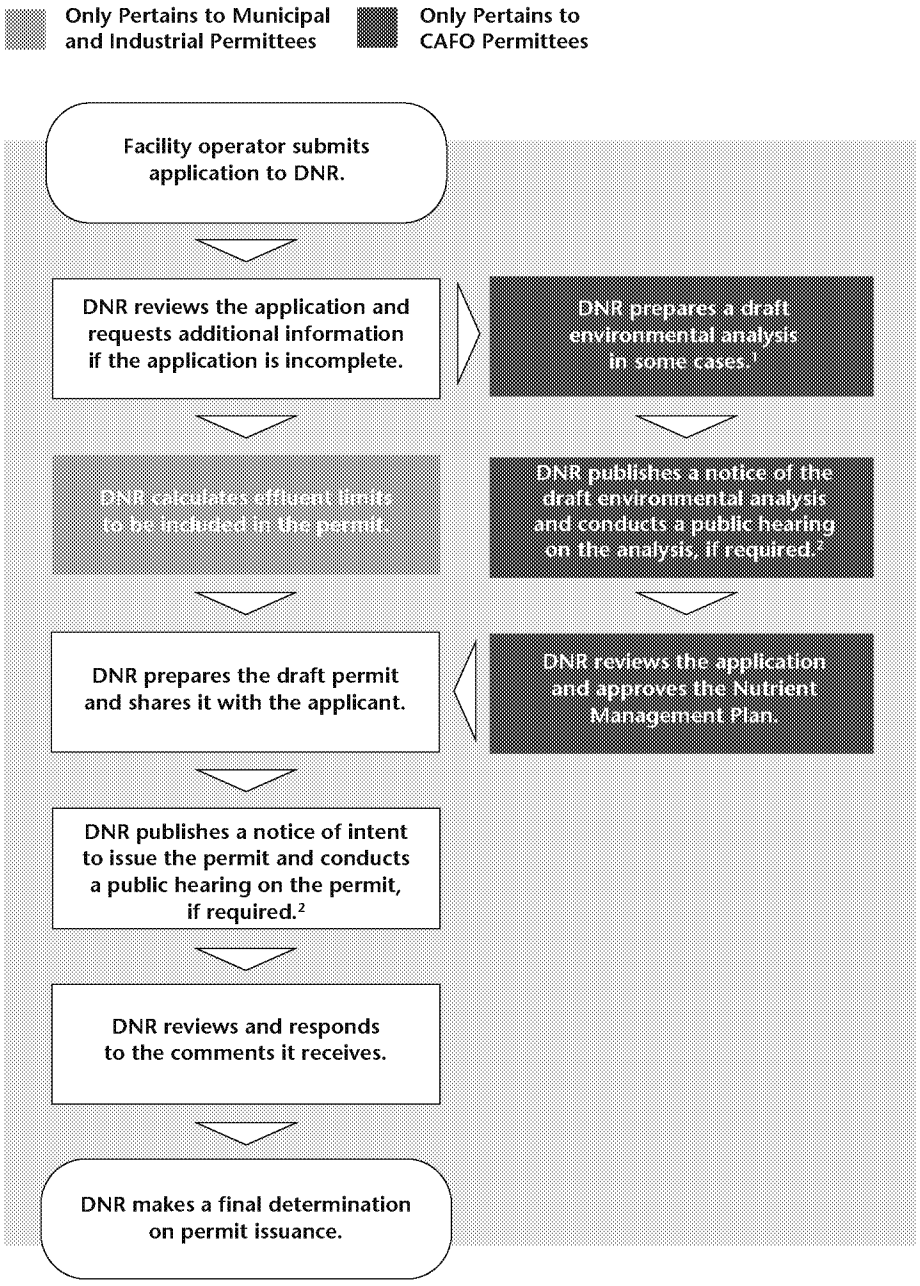
First-time applicants for WPDES permits typically initiate the application process. The reapplication process typically begins with DNR sending a letter to a permittee at least one year in advance of the expiration of the current permit that provides instructions on how to submit an application for reissuance. To ensure sufficient time for review and approval of permit applications, DNR requires applicants for municipal and industrial permits to submit their materials at least 180 days in advance of the time they wish to begin a new discharge that requires a WPDES permit or before expiration of an existing permit. DNR requires first-time applicants for CAFO permits to submit their materials at least 180 days before reaching 1,000 animal units, and it requires current permittees to submit their materials at least 180 days before expiration of their existing permits. Beginning in 2007, DNR accepted municipal and industrial WPDES applications submitted online, and beginning in 2008, it required online submission for all municipal and industrial applications. The typical permitting process for municipal, industrial, and CAFO permittees is shown in Figure 7.

DNR places limits on the concentration and mass of pollutants that may be discharged by municipal and industrial permittees.

For municipal and industrial permit applications, DNR staff review the submitted information and calculate limits on the concentration and mass of pollutants that will be allowed in the effluent discharged by the permittee. For permits that are to be reissued, the application process involves updating information to address any changes that have been made to state or federal law, to address changes made to the permittee's operations, or to respond to changes in water quality associated with the body of water into which the effluent will be discharged, which is known as the receiving water body.

Figure 7

Permit Application and Review Process



[1] Environmental analyses are generally conducted only for new CAFO permittees or for CAFO permittees planning to significantly expand their operations. In 2015, ch. NR 150, Wis. Adm. Code, was amended to integrate environmental analyses into the permitting process so that they are no longer conducted as separate analyses.

[2] DNR is required to hold a public hearing if requested by EPA or when five or more individuals petition for a hearing. In addition, DNR may choose to hold a public hearing upon the request of the applicant or members of the public.

From 2005 through 2014, DNR issued 156 municipal and 30 industrial permits with variances to effluent limits.

Effluent limits for both new and existing permittees are calculated based on current technological capabilities to remove specific pollutants, the cost of pollutant removal, and the potential effect of the discharged pollutants on water quality. If the proposed effluent discharge has a reasonable potential to degrade the quality of the receiving water body to the extent that it would harm its aquatic life or recreational use, DNR is required by the Clean Water Act to apply more stringent effluent limits. Applicants who believe they are unable to meet these more stringent limits may apply for a variance, but they must demonstrate that failure to meet the established limits is due to allowable reasons, such as that meeting them would cause substantial and widespread adverse social and economic impacts. In addition, all variances are approved by EPA. From 2005 through 2014, DNR issued 156 municipal and 30 industrial permits with variances. Of these 186 permits, 182 had variances for one pollutant and 4 had variances for two pollutants. The most common pollutants for which variances were issued were chloride, mercury, and copper.

Unlike municipal and industrial facilities that discharge effluent via a pipe, CAFOs have diffuse discharges or discharges that are not visible because they seep into the ground. Consequently, DNR does not establish effluent limits for CAFOs, but it does conduct environmental analyses to ensure that CAFOs' effects on the environment are fully considered by DNR. Environmental analyses are generally conducted only for new CAFO permittees or for CAFO permittees planning to significantly expand their operations. The issuance of environmental analyses are subject to public notice requirements, and DNR may hold a public hearing on an analysis. In 2015, ch. NR 150, Wis. Adm. Code, was amended to integrate environmental analyses into the permitting process so that they are no longer conducted as separate analyses.

CAFO applicants are required to submit nutrient management plans as part of their application materials.

CAFO applicants are also required to submit nutrient management plans as part of their application materials under state and federal regulations. Such plans address where, when, and in what manner manure will be spread, including how permittees will conform to existing legal requirements, such as ensuring that no manure is applied within 100 feet of a private well. The plans must also describe the types of analyses that will be conducted on the manure; on the process wastewater, which is water that is contaminated through normal CAFO operations, such as water used to clean and cool livestock; and on the soil to which the manure and wastewater will be applied. For example, measuring soil nutrient levels prior to manure application is important for determining the amount of nutrients in the manure that will likely be used by crops. This helps to avoid excess manure application that could potentially contaminate surface water or groundwater.

Nutrient management plans are specifically required to address phosphorous pollution.

The nutrient management plans that CAFOs develop are specifically required to address phosphorous pollution, which is one of the most significant pollutants generated. The plans must outline a field-by-field strategy for minimizing the potential for phosphorous pollution, and permittees are required to analyze and report phosphorous levels in the soil using test methods approved by DNR.

Although many municipal and industrial permittees apply sludge to fields and crops similar to the application of manure by CAFOs, neither federal regulations nor DNR require municipal and industrial permittees to develop nutrient management plans. DNR staff indicated that this is because nutrient management plans were specifically developed for agricultural purposes in order to manage nutrient availability for crops and not necessarily as a means to control pollution. However, municipal and industrial permittees are required to follow certain practices for land application when it is included as a method of disposal, including receiving approval from DNR for application sites.

Public Notice Requirements

DNR is required to publish public notice regarding its tentative decision to issue or deny a WPDES permit and may hold a public hearing.

Section 283.39, Wis. Stats., requires DNR to publish public notice in the local newspaper for the facility operator's location and on its website regarding its tentative decision to issue or deny a WPDES permit. DNR must allow at least 30 days for members of the public to submit written comments on a proposed permit, and it must take these comments into account in making its final determination. Although DNR does not maintain aggregate data on the number of permits modified as a result of public comment, it estimates that between 25 and 50 percent of permits are modified based on the comments it receives. DNR indicated that most of the modifications are minor, such as adjusting the frequency of required effluent monitoring. DNR may choose to hold a public hearing upon the request of the applicant or members of the public, but it is required to hold a hearing if requested by EPA or when five or more individuals petition for a hearing.

DNR was able to document that it published required notices for all but 1 of the 190 proposed permits.

We selected a random sample of 190 WPDES permits issued from 2005 through 2014 and analyzed DNR's compliance with public notice requirements for each. We found that DNR was able to document that it published required notices for all but 1 of the 190 proposed permits. DNR indicated that a public notice was likely published for the remaining permit, but it was unable to provide documentation showing that the notice had been published. All of the 190 proposed decisions were to approve the requested WPDES permits.

DNR is working to make information on CAFO applications easily accessible to the public.

Representatives of environmental groups with whom we spoke expressed concerns regarding the timeliness with which information on CAFO application materials and environmental analyses are made available during the public comment period. They indicated that these materials are not often available online, requiring interested parties to make an open records request to DNR in order to obtain them. They noted that the time DNR takes to process these requests can represent a substantial portion of the 30-day public comment period, allowing little time for them to review the materials and provide comments to DNR. These representatives contrasted the CAFO permitting process with the process that DNR uses for issuing permits related to the regulation of air pollution, for which extensive information, such as applications, permit drafts, and emissions and monitoring reports, is made easily accessible through DNR's website. DNR is currently working on a project to make all CAFO application materials, including application forms, design plans, and nutrient management plans, available online. It anticipates completion of this effort by the end of 2016.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on the status of its efforts to make CAFO application forms, design plans, and nutrient management plans easily accessible through its website.

Timeliness of Permit Issuance

Permits that are not reissued before the current permits expire are administratively extended for an undefined period.

Permits that are not reissued before the current permits expire are administratively extended for an undefined period. Permits that remain active through an administrative extension become part of a backlog of permits. EPA staff indicated that the size of a permit backlog is one indicator of how well a state's wastewater program is administered. Backlogs are common throughout the nation, and EPA collects quarterly data on the extent of each state's backlog.

DNR has established a goal to limit its WPDES permit backlog to no more than 10 percent for both municipal and industrial permits and to no more than 15 percent for CAFO permits. EPA staff with whom we spoke believe these goals are reasonable. We analyzed data maintained by DNR to independently determine the extent to which DNR met these goals.

We found that from 2005 through 2015, DNR met its goal of having no more than a 10 percent backlog for municipal permits for 4 of these 11 years, but never met this goal for industrial permits in any of the years we reviewed, as shown in Table 9. In addition, DNR met

its goal of having no more than a 15 percent backlog for CAFO permits for 9 of the 11 years we reviewed. We note that the percentage of industrial permits that were backlogged was higher than the percentage for municipal permits in every year except 2014.

Table 9

Permit Backlog[1]

Year[2]	Municipal Permits	Industrial Permits	CAFO Permits
2005	6.0%	13.9%	13.6%
2006	4.7	13.2	13.2
2007	6.8	16.3	10.4
2008	10.0	19.4	13.6
2009	14.1	21.6	11.9
2010	19.0	27.4	13.5
2011	26.1	37.1	13.7
2012	30.1	43.9	15.1
2013	29.8	36.0	15.4
2014	27.6	27.0	9.9
2015[3]	22.5	27.7	9.9

[1] Shaded cells indicate DNR did not meet its backlog goal: no more than 10 percent for municipal and industrial permits and no more than 15 percent for CAFO permits.

[2] Based on July of each year.

[3] Based on unaudited data reported by DNR.

As shown in Table 10, DNR's backlog for major municipal and industrial permits was similar to its overall permit backlog. The backlog peaked in 2010 at 44.5 percent, but declined to 25.6 percent in 2015. The backlog for major industrial permits was higher than for major municipal permits in each year. Based on data compiled by EPA, as of December 2015, Wisconsin had a backlog of 21.4 percent for major permits, which was higher than EPA's Region 5 average of 15.6 percent, but lower than the national average of 24.9 percent.

Table 10

Major Municipal and Industrial Permit Backlog

Year[1]	Major Municipal	Major Industrial	Total
2005	8.1%	23.1%	12.8%
2006	4.7	12.8	7.2
2007	12.8	25.0	16.7
2008	24.4	31.0	26.6
2009	25.6	57.1	35.9
2010	32.6	69.1	44.5
2011	27.9	72.5	42.1
2012	31.4	62.5	41.3
2013	21.4	42.5	28.2
2014	28.7	31.7	29.7
2015[2]	17.4	43.6	25.6

[1] Based on July of each year.

[2] Based on unaudited data reported by DNR.

We found that 41 permits (2.9 percent) had been backlogged for six or more years.

We also analyzed the amount of time permits had been backlogged. We found that 41 permits (2.9 percent), including 37 municipal and industrial permits and 4 CAFO permits, had been backlogged for six or more years. The longest backlog was 21 years, which involved a permit for an industrial power generating facility. Although this particular permit expired in December 1991, DNR did not reissue the permit until January 2013. DNR reported that permit reissuances were prepared in both 1992 and 2005, but they were never issued because EPA objected to a lack of thermal limits on the effluent discharged. DNR indicated that it lacked the authority to regulate effluent temperature until it promulgated thermal rules that became effective in October 2010. Using this authority, DNR incorporated thermal limits into a new draft permit, and EPA lifted its objections and allowed DNR to issue the permit.

As of June 2015, 23 pending permits had been backlogged for six or more years. We requested additional information about the five municipal and industrial permits that had the longest backlogs, which ranged from seven to eight years. DNR attributed the delay in reissuing these permits to:

- the reassignment of three permits among DNR staff to address staffing vacancies;

- a change in the type of permit coverage for an industrial permit holder; and

- the technical complexity of one permit, including the need to comply with new federal requirements for cooling water intake structures.

We also requested additional information about the four CAFO permits that were backlogged from 8 to almost 16 years. DNR attributed these delays to:

- two instances in which DNR staff vacancies prevented timely action;

- one instance in which the permittee was involved in an extended enforcement process for which DNR awaited a resolution before reissuing the permit; and

- one instance in which the permittee took an extended period of time closing one of its facility locations, and DNR waited for the closure before reissuing the permit.

Backlogs can accumulate for several reasons. For example, DNR staff indicated that applicants do not always submit complete applications, and it can take an extended period of time to obtain the necessary additional information. The date an application is received by DNR is not always electronically recorded. Therefore, we analyzed data on the date DNR determined the application to be complete.

We analyzed available data for 863 permittees that were required to reapply for 1,296 WPDES permits between 2005 and 2014. We found that DNR determined 473 of these permit applications (36.5 percent) to be complete at least 180 days before the current permits expired. However, 207 (16.0 percent) were determined to be complete after the existing permits expired. In instances in which the 180-day threshold was not met, DNR does not record information in a manner that allowed us to determine the extent to which the delay was the result of permittee tardiness, delays on the part of DNR, or both.

Additionally, DNR staff turnover and vacancies have at times impeded the timely issuance of permits. DNR staff also indicated

that municipal and industrial permits are often delayed when a permittee seeks a variance to a water quality-based effluent limit, because DNR is required to seek EPA approval for all variances. Of the 186 municipal and industrial permits that were granted variances from 2005 through 2014, sufficient data was available for 71 of them to allow us to calculate the time between permit application and issuance.

We compared these 71 permits with 480 municipal and industrial permits that did not receive a variance during this period. We found that permits with a variance took an additional 544 days, on average, to issue after DNR determined the application to be complete compared to permits without a variance. The average time for EPA to process variance requests for these 71 permits was 81 days, or 15.2 percent of the additional time taken by DNR to issue these permits. DNR indicated, however, that the increase in time is attributable to negotiations with EPA that occur before the variance is formally submitted to EPA for approval.

Both DNR and EPA note that during a period when new effluent limits are established, it is not uncommon for a backlog to grow as the new limits are understood and incorporated into WPDES permits. For example, DNR noted that it delayed permit reissuances in 2011 as it awaited EPA's approval of a new DNR rule for calculating phosphorus limits. It also noted that thermal limits promulgated by DNR in 2010 had a similar effect on the permit backlog.

From January 2011 through October 2015, DNR received 42 petitions for review of its final WPDES permitting decisions.

The issuance of some permits may also be delayed when DNR receives a petition for review of a final permitting decision. Statutes provide that any permit applicant, permittee, affected state, or five or more persons may request a review of DNR's final permitting decision. DNR staff noted that this review process plays an important role during which DNR can provide additional information, such as why certain limits have been required under the permit. However, they also note that managing permit challenges requires the involvement of the permit drafter, which takes time away from permitting duties and could contribute to the permit backlog. From January 2011 through October 2015, DNR received a total of 42 petitions for review of its final WPDES permit decisions. The largest number of petitions was received in 2012 and 2013, with 12 and 13 requests, respectively. These are also two of the three years during which the backlog was highest for the period we reviewed.

Because permits are administratively extended when they expire, permits that are not renewed on a timely basis are unlikely to substantially impact permittee operations. However, delays in

issuing permits may have some negative consequences. For example, because the terms of an expired permit are extended until a permit can be reissued, the expired permit may contain effluent limits or other standards that are inconsistent with new limits and standards established by DNR or that may be required based on changes in the quality of the receiving water body. Timeliness in permit issuance is also important in limiting the uncertainty that may be experienced by permittees whose costs may be affected by potential permit changes and in maintaining public trust in the integrity of the program. In addition, issues of equity may be raised if one permittee is allowed to operate for an extended period based on outdated effluent limits or operating requirements while similar permittees are required to more quickly adapt to the new limits and requirements.

☑ Recommendation

We recommend the Department of Natural Resources:

- *develop and implement a plan to further reduce the WPDES permit backlog; and*

- *report to the Joint Legislative Audit Committee by November 1, 2016, on its efforts, including the status of any permits backlogged for more than one year.*

■ ■ ■ ■

Monitoring and Oversight of Permittees ■

DNR determines compliance with permit requirements primarily through reports submitted by permittees and DNR inspections of permittees' facilities. Timely report submissions allow DNR to identify violations and take steps to address them. We found that 79.1 percent of reports submitted by municipal and industrial permittees were submitted on time. However, data were not readily available to allow us to assess reporting compliance for CAFO permittees. We also found variation among DNR regions in the frequency of facility inspections. We make recommendations for DNR to improve its oversight of permittees.

Permittee Reporting Requirements

A primary mechanism DNR uses to oversee permittees is the requirement that they submit reports on their effluent discharges and land spreading activities. The frequency and content of these reports vary based on the type of activity being regulated.

Reporting by Municipal and Industrial Permittees

Municipal and industrial permittees are typically required to test their effluent on a daily, weekly, or monthly basis, depending on the substances they discharge.

The number of substances and parameters for which permittees are required to test varies based on facility type and the substances being discharged. Municipal facilities generally test for a relatively consistent set of substances and parameters. In contrast, testing requirements for industrial permittees vary to a much greater extent and range from testing for a single parameter for some food processors to testing for more than twelve substances for paper mills and permittees involved in energy production.

Municipal and industrial permittees regularly report the results of laboratory tests on their effluent discharges.

All effluent samples are required to be analyzed by laboratories certified through DNR's Laboratory Certification and Registration Program. Permittees typically report the results of these analyses to DNR on a monthly basis through the submission of discharge monitoring reports, which is the primary method DNR uses for determining whether permittees have complied with the discharge limits in their permits.

As shown in Table 11, we found that 87,829 (79.1 percent) of the discharge monitoring reports submitted by municipal and industrial permittees from 2005 through 2014 were submitted by their due dates. However, 288 (0.3 percent) were submitted more than one year after they were due.

Table 11

Timeliness of Discharge Monitoring Reports Submitted by Municipal and Industrial Permittees
2005 through 2014

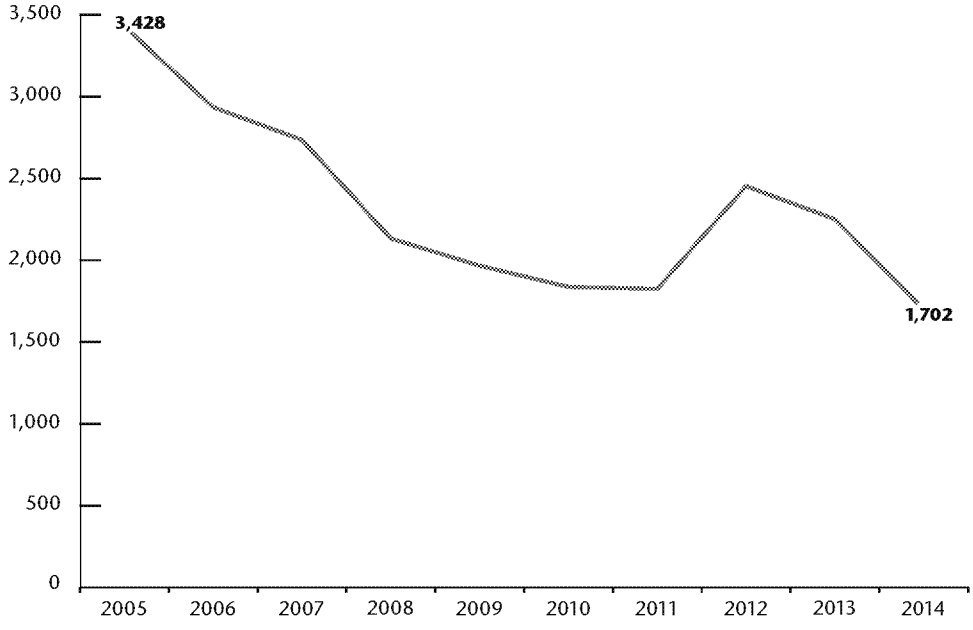
Days Late	Number of Reports	Percentage
On Time	87,829	79.1%
1 to 30 Days	17,857	16.1
31 to 90 Days	3,231	2.9
91 to 180 Days	1,142	1.0
181 to 365 Days	749	0.7
More than 365 Days	288	0.3
Total	**111,096**	**100.0%**

From 2005 to 2014, the submission of late reports by municipal and industrial permittees declined by 50.4 percent.

As shown in Figure 8, the extent to which permittees submitted late reports declined by 50.4 percent from 3,428 in 2005 to 1,702 in 2014. However, the number of reports permittees submitted more than 30 days late remained relatively unchanged at 561 for reports due in 2005 and 565 for reports due in 2014.

Figure 8

Discharge Monitoring Reports Submitted After their Due Dates by Municipal and Industrial Permittees



Municipal permittees are also required to complete a self-evaluation of their facilities and submit a compliance maintenance annual report by June 30 of each year. These reports include information about changes in management and operations, as well as necessary upgrades and maintenance. We analyzed the timeliness of the 6,510 compliance maintenance reports submitted from 2005 through 2014 and found that 5,333 (81.9 percent) were submitted by their due dates, and an additional 1,064 (16.3 percent) were submitted within 90 days of their due dates. However, 59 (0.9 percent) were submitted more than 120 days after their due dates.

Reporting by CAFO Permittees

CAFO permittees have no effluent testing requirements and instead conduct self-monitoring and report annually to DNR.

Because CAFO permittees have no effluent testing requirements, as noted, DNR largely relies on the permittees themselves to monitor their activities, inspect their operations, and report annually to DNR.

Annual Reports

CAFO permittees are required to submit annual reports to DNR that:

- identify any permit violations, any overflows of liquid manure from containment structures, and the number of required self-inspections that the permittee failed to conduct;
- identify the number and type of mature and immature animals onsite and whether the animals are in open confinement or housed under a roof; and
- include the laboratory analyses for manure testing for the previous year and the most recent soil test analyses for fields receiving manure or process wastewater in the previous year, which are both to be conducted by laboratories of the University of Wisconsin System or laboratories certified by the Department of Agriculture, Trade and Consumer Protection.

Only 36 of approximately 1,900 annual reports required to be submitted by CAFO permittees had been electronically recorded as being received.

DNR indicated that it monitors whether permittees have submitted annual reports. It also indicated that because DNR staff are not centralized, they are instructed to electronically record the dates annual reports are received. This is important as the WPDES program cannot be effectively managed if program managers in DNR's central office who are responsible for monitoring and oversight do not have access to basic information that is electronically recorded. However, we found that only 36 of the approximately 1,900 annual reports required to be submitted by CAFO permittees from 2005 through 2014 had been electronically recorded as being received. Without this information, program managers have no way to reliably assess the extent to which timely submission of required annual reports is a concern.

DNR regional staff indicated they do not have time to thoroughly review annual reports submitted by CAFO permittees.

DNR regional staff responsible for electronically recording annual report submissions indicated they did not do so because of a lack of time given their other responsibilities. Similarly, they indicated that they do not have time to thoroughly review each annual report. A thorough review and analysis of each CAFO annual report may reveal areas of noncompliance or trends that may indicate potential concerns with a permittee's operations.

Nutrient Management Plans

As part of the annual reporting requirement, CAFO permittees are required to submit updated nutrient management plans for review and approval, as well as a record of daily manure spreading activities. In addition, permittees are required to keep a record of their self-monitoring and self-inspection program, which includes periodic visual inspections of water lines, storage structures, and calibrations of land spreading equipment.

In April 2012, DNR began an initiative to improve the nutrient management planning process because it believes that nutrient management planning is the single most important practice for safeguarding water quality from potential pollution by CAFOs. In 2012, DNR worked with its stakeholders to assess nutrient management planning and implementation. Through this process, it determined that:

- the nutrient management plans submitted by permittees were not always complete or compliant with state law;
- DNR staff did not always have adequate time to review the plans;
- there were significant differences in plan content and requirements across the state; and
- the plans were not being consistently implemented by the permittees.

DNR developed 36 goals for improving the planning and implementation process for nutrient management plans.

To address these issues, DNR developed a standard procedure for reviewing nutrient management plans and developed 14 short-term and 22 long-term goals for improving the planning and implementation process. Appendix 3 lists the status of each goal as of January 2016.

DNR has required some CAFO permittees to install monitoring wells in order to assess potential groundwater contamination.

DNR has also required some CAFO permittees to install monitoring wells within the production area in order to assess potential groundwater contamination. The production area includes the structures in which livestock are housed and manure and feed are stored. DNR staff indicated that as of November 2015 at least 12 CAFO permittees were required to have monitoring wells and test water samples at least quarterly.

We found that test results for the monitoring wells of at least 5 of the 12 CAFO permittees exceeded their permit limits for certain pollutants, including:

- an Adams County permittee with exceedances for nitrate and total coliform bacteria in 2014 that DNR indicated it is in the process of evaluating;
- a La Crosse County permittee with exceedances for nitrogen beginning in 2005 that DNR indicated it is in the process of evaluating;
- a Racine County permittee with exceedances for chloride, chlorine, dissolved oxygen, fecal coliform bacteria, and sulfate beginning in 2005 that DNR did not pursue because the permittee subsequently ceased operations in May 2008;
- a Racine County permittee with exceedances for chloride and nitrate in 2006 and 2007 that DNR believes likely led to the closure of a retention pond in August 2007, although documentation confirming a link between the exceedances and the closure was not available; and
- a Sauk County permittee with exceedances for nitrate beginning in 2013 that DNR indicated it had not evaluated and responded to through January 2016 because of a staff vacancy.

☑ Recommendation

We recommend the Department of Natural Resources require its staff to:

- *record in the WPDES database the dates that annual reports submitted by CAFO permittees were received; and*
- *thoroughly review the annual reports submitted by CAFO permittees.*

Inspections of Permitted Facilities

Inspections help in determining whether permittees are complying with their permit requirements.

Inspections help to protect water quality by determining whether permittees are complying with permit requirements. Inspections may also help to deter violations by providing a mechanism for DNR to verify information submitted by permittees and by providing DNR with opportunities to make suggestions for improving compliance. In addition, inspections offer the opportunity to strengthen relationships between permittees and DNR staff, which DNR staff indicated may increase the likelihood that permittees will report any problems or spills to DNR soon after they occur and work collaboratively with DNR to avoid or limit the excess discharge of pollutants.

EPA establishes national inspection frequency goals for all categories of wastewater dischargers. The national inspection frequency goal for major municipal and industrial permittees is generally once every two years. However, the inspection frequency may be reduced to once every three years based on the permittee's compliance history, facility location, and potential environmental impacts. For minor municipal and industrial permittees and CAFO permittees, the national inspection frequency goal is generally at least once every five years. DNR provided information indicating that it met these national inspection goals for FY 2013-14 and FY 2014-15. However, it should be noted that this information includes laboratory audits as inspections.

In addition to the EPA goals, s. 281.96, Wis. Stats., requires DNR to inspect industrial permittees at frequent intervals, but does not specify the number of inspections that are required to be conducted within a given time period. Although there is no similar inspection requirement for municipal or CAFO permittees, statutes provide that DNR may enter the premises of any industrial, municipal, or CAFO permittee to collect any information necessary to ensure that the permittee complies with its permit requirements. Inspections of permittee operations typically involve an on-site examination as well as the completion of inspection checklists detailing several required and optional items to be assessed.

DNR has developed specific inspection goals for permittees based on their type.

To provide additional guidance to staff in conducting inspections, DNR has developed its own inspection strategy. The inspection strategy indicates that only an in-person contact focused on compliance during which a DNR staff member completes an inspection checklist should be considered an inspection. The inspection strategy also establishes specific inspection goals, including:

- inspecting major municipal and industrial permittees at least once every two years;
- inspecting minor municipal and industrial permittees at least twice during each five-year permit term;
- inspecting CAFO permittees at least twice during each five-year permit term;
- inspecting permittees with significant violations more frequently; and
- conducting and documenting inspections consistently across the state.

Municipal and Industrial Inspections

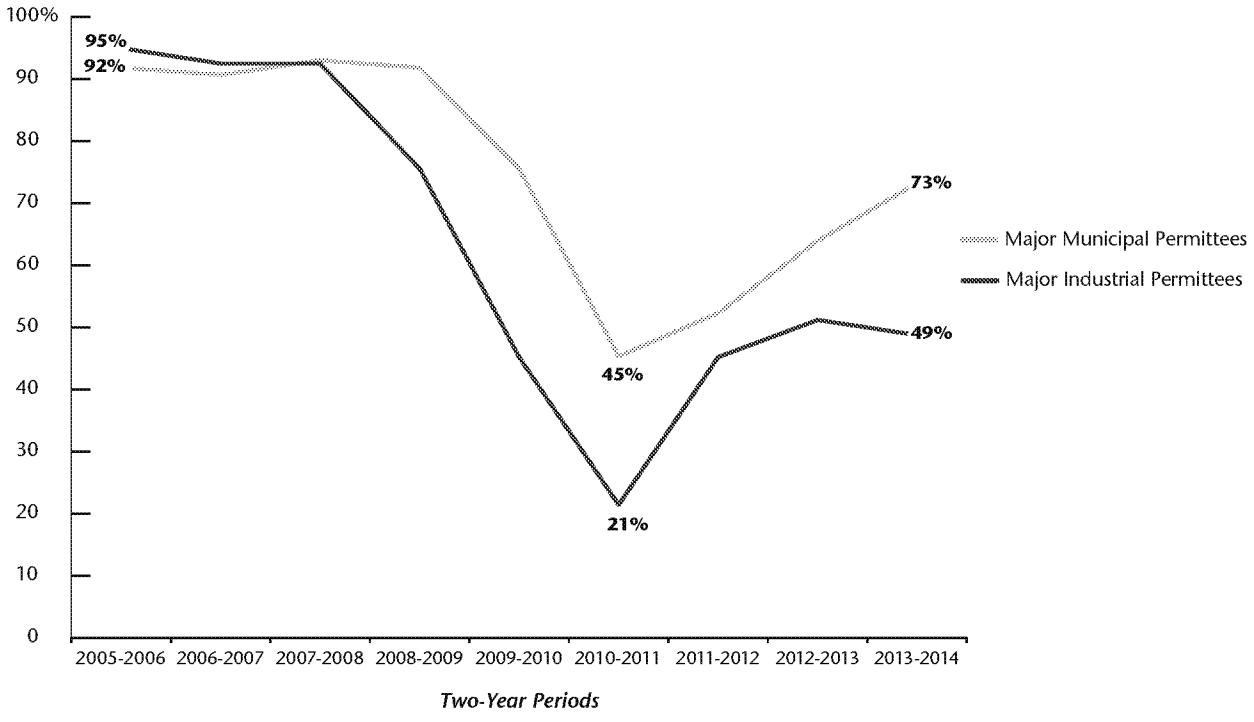
We reviewed available data to determine DNR's performance in meeting its goals. From 2005 through 2014, DNR records indicated that it conducted inspections of 87 major and 569 minor municipal permittees and 42 major and 304 minor industrial permittees.

The percentage of major municipal permittees inspected at least once within each two-year period ranged from 92 percent to 45 percent.

Because DNR's goal is to inspect major permittees at least once every two years, we looked at two-year intervals to determine the percentage of major municipal and major industrial permittees that had at least one inspection within each two-year period. The percentage of major municipal permittees inspected at least once within each two-year period declined from a high of 92 percent during the period from 2005 through 2006 to a low of 45 percent during the period from 2010 through 2011, as shown in Figure 9. The percentage of major industrial permittees inspected at least once within each two-year period declined from a high of 95 percent during the period from 2005 through 2006 to a low of 21 percent during the period from 2010 through 2011. Inspections for both types generally increased thereafter.

Figure 9

Percentage of Major Municipal and Industrial Permittees Inspected at Least Once in Each Two-Year Period

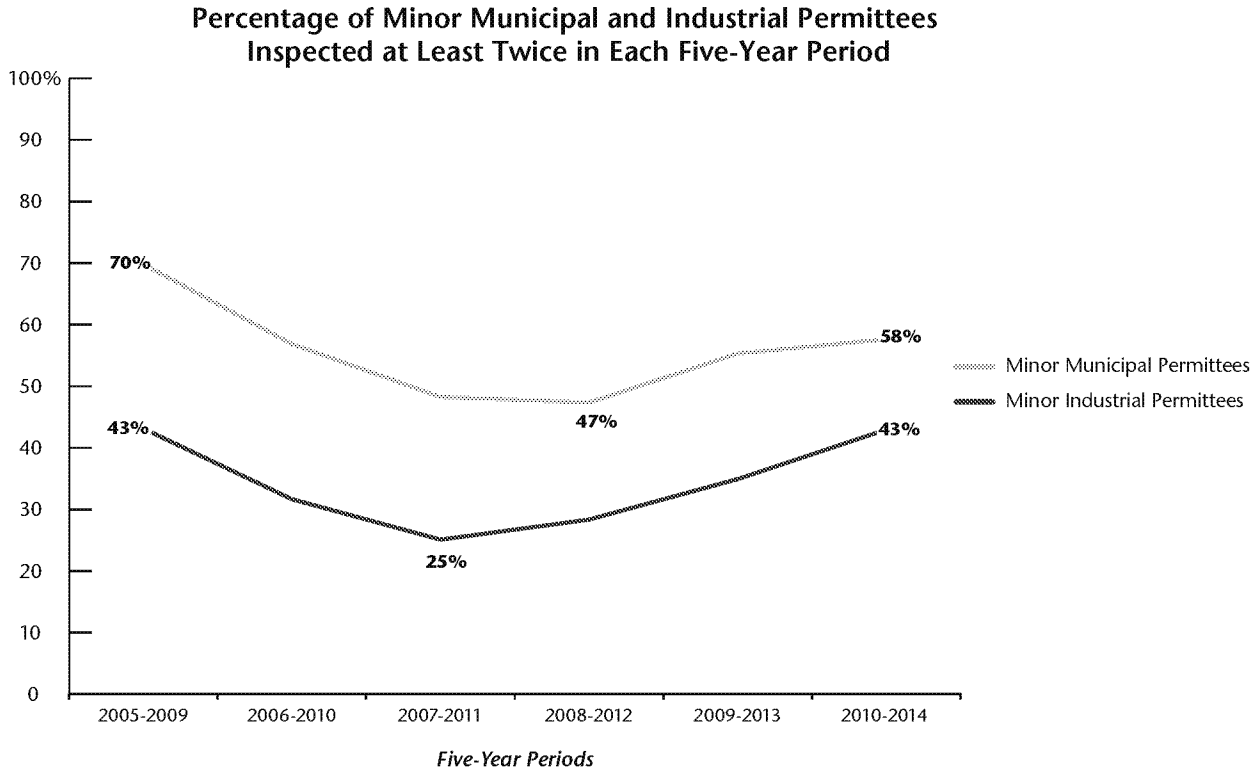


The percentage of minor municipal permittees inspected at least twice within each five-year period ranged from 70 percent to 47 percent.

In addition, because DNR's goal is to inspect minor permittees at least twice during every five-year permit period, we looked at five-year intervals to determine the percentage of minor municipal and minor industrial permittees that had at least two inspections within each five-year period. As shown in Figure 10, the percentage of minor municipal permittees inspected at least twice within each five-year period declined from a high of 70 percent during the period from 2005 through 2009 to a low of 47 percent during the period from 2008 through 2012. The percentage of minor industrial permittees inspected at least twice within each five-year period declined from a high of 43 percent during the period from 2005 through 2009 to a low of 25 percent during the period from 2007 through 2011.

We identified 10 minor permittees, including 7 minor industrial and 3 minor municipal permittees, which had been operating for five or more years from 2005 through 2014 for which DNR could provide no record of an inspection having been conducted and that involved no mitigating circumstances, such as facilities discontinuing their operations. DNR believes that inspections were likely conducted for at least some of the 10 permittees and suspects that the documentation was lost.

Figure 10



DNR's inspection strategy also establishes the goal of inspecting permittees with significant violations more frequently. We analyzed the average time between inspections and found that, on average, DNR inspected municipal and industrial permittees to which it issued a notice of violation more frequently than those to which it did not issue such violations.

☑ Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in conducting inspections of municipal and industrial permittees based on its established goals;*
- *develop and implement a plan to improve its performance in meeting its inspection goals for municipal and industrial permittees; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its progress in developing and implementing the plan.*

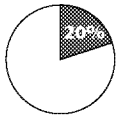
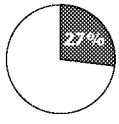
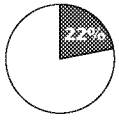
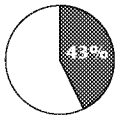
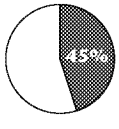
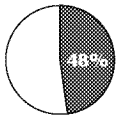
CAFO Inspections

From 2005 through 2014, the percentage of CAFOs that DNR inspected twice within each five-year period never exceeded 48 percent.

DNR's inspection strategy for CAFO permittees specifies a goal of two inspections every five years. In assessing DNR's performance in achieving this goal, we included inspections conducted prior to the issuance of a first permit. Although the number of CAFO inspections DNR conducted over this period increased, the percentage of CAFOs that DNR inspected twice within each five-year period never exceeded 48 percent, as shown in Figure 11.

Figure 11

Percentage of CAFO Permittees Inspected at Least Twice in Each Five-Year Period[1]

Five-Year Periods	Total Number of CAFO Permittees	Percentage Inspected
2005-2009	132 Permittees	
2006-2010	143 Permittees	
2007-2011	156 Permittees	
2008-2012	164 Permittees	
2009-2013	169 Permittees	
2010-2014	174 Permittees	

[1] Includes initial inspections completed prior to the issuance of a first permit.

We also analyzed whether those CAFO permittees with the highest number of enforcement actions received more frequent inspections. We found DNR conducted an average of 2.7 inspections for the 124 CAFO permittees that were in operation every year from 2005 through 2014. In contrast, DNR conducted an average of 3.7 inspections for the 15 CAFO permittees that were in operation every year during this period and had the most enforcement actions. Each of these 15 CAFO permittees received at least two inspections during this period and all but one received three or more, including one permittee that received eight inspections. In addition, DNR referred 7 of the 15 permittees (46.7 percent) to the Department of Justice (DOJ) during this period.

☑ Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in conducting inspections of CAFO permittees based on its established goals;*
- *develop and implement a plan to improve its performance in meeting its inspection goals for CAFO permittees; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its progress in developing and implementing the plan.*

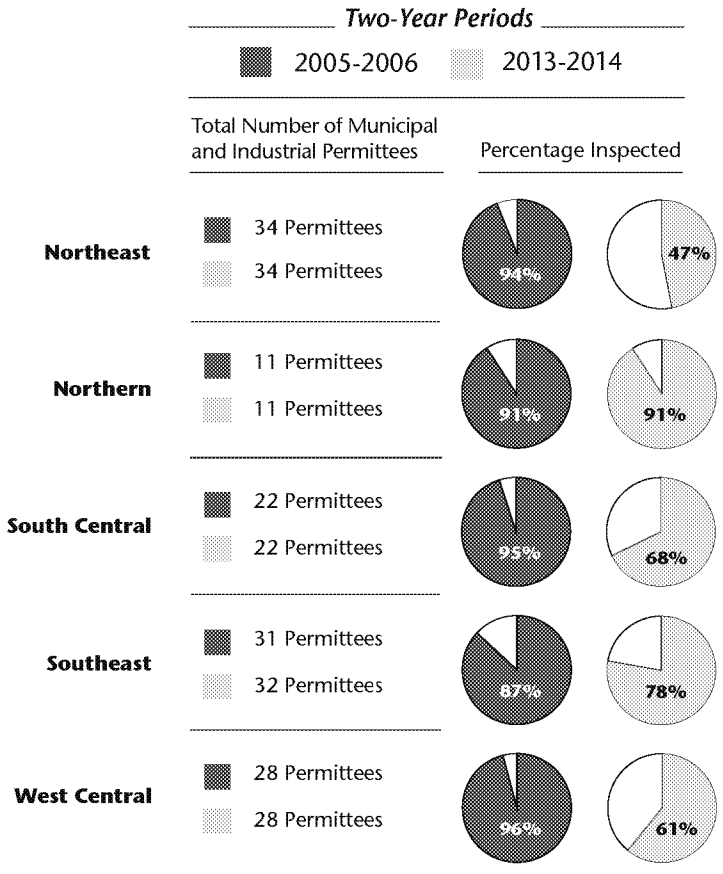
Consistency of Inspections

The extent to which major municipal and industrial permittees were inspected at least once every two years varied among DNR regions.

To assess DNR's consistency in the frequency of inspections for municipal and industrial permittees, we compared the percentage of major permittees, by DNR region, that were inspected at least once within two-year periods, which is the goal DNR has established for inspection of major permittees. Figure 12 shows the extent to which major permittees in each region were inspected at least once during the period from 2005 through 2006 and during the period from 2013 through 2014. Between these two-year periods, the percentage of major permittees inspected in four of DNR's five regions declined. The biggest change was a decline of 47 percentage points in the Northeast Region. The extent to which major facilities were inspected at least once every two years ranged from 47 percent in the Northeast Region to 91 percent in the Northern Region during the period from 2013 through 2014.

Figure 12

Percentage of Major Municipal and Industrial Permittees Inspected at Least Once in Each Two-Year Period, by Region[1]

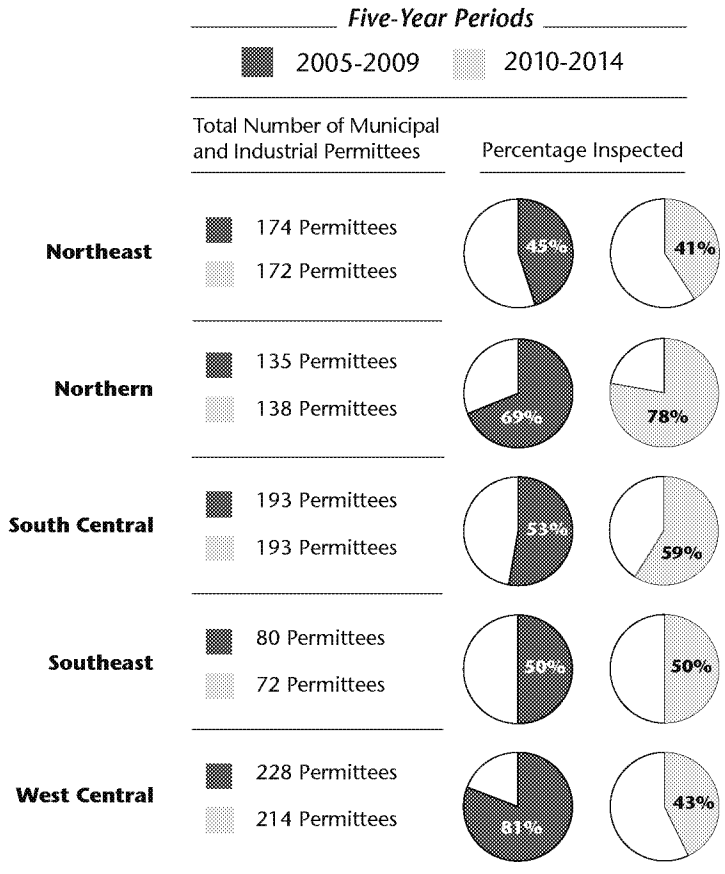


[1] DNR has established a goal that major permittees be inspected at least once every two years.

We also compared the percentage of minor municipal and industrial permittees, by DNR region, that were inspected at least twice within five-year periods, which is the goal DNR has established for inspection of minor permittees. Figure 13 shows the extent to which minor permittees were inspected at least twice during the period from 2005 through 2009 and during the period from 2010 through 2014. Between these two five-year periods, the percentage of minor permittees that were inspected at least twice increased in two regions, declined in two regions, and remained the same in one region. The biggest change was a decline of 38 percentage points in the West Central Region.

Figure 13

Percentage of Minor Municipal and Industrial Permittees Inspected at Least Twice in Each Five-Year Period, by Region[1]



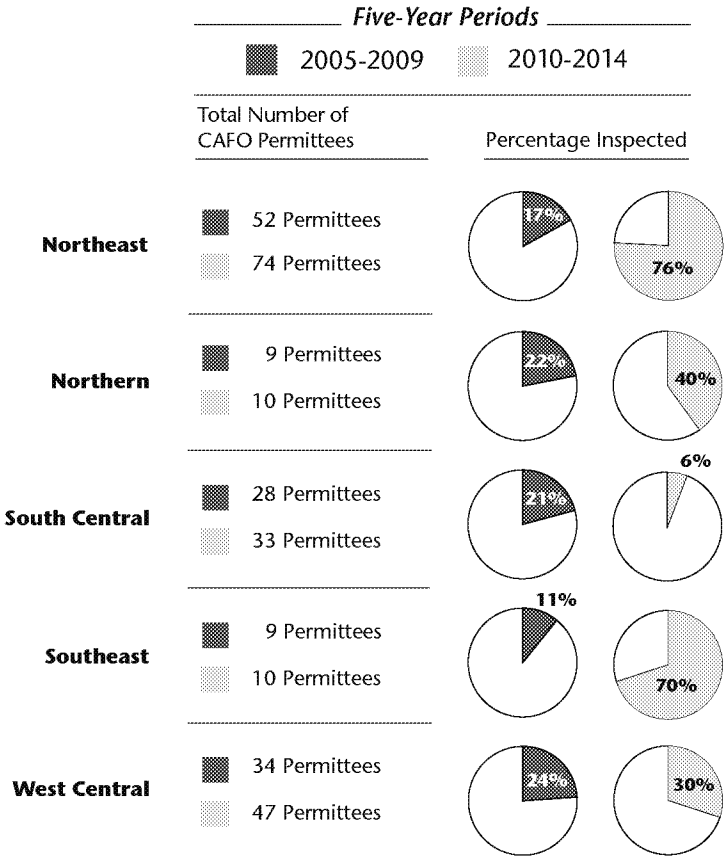
[1] DNR has established a goal that minor permittees be inspected at least twice every five years.

The extent to which CAFO permittees were inspected at least twice every five years varied among DNR regions.

To assess DNR's consistency in the frequency of inspections for CAFO permittees, we compared the percentage of CAFO permittees by DNR region that were inspected at least twice every five years. As noted, DNR has established a goal of inspecting of CAFO permittees at least twice within each five-year permit term. Figure 14 shows the extent to which CAFO permittees were inspected at least twice during the period from 2005 through 2009 and during the period from 2010 through 2014. Between these two five-year periods, the percentage of CAFO permittees that were inspected at least twice increased in four regions and declined in one. The largest change was a 59 percentage point increase in both the Northeast and Southeast regions.

Figure 14

Percentage of CAFO Permittees Inspected at Least Twice in Each Five-Year Period, by Region[1]



[1] DNR has established a goal that CAFO permittees be inspected at least twice every five years. Our analysis includes initial inspections completed prior to the issuance of a first permit.

Determining Substantial Compliance

Statutes provide that DNR may not reissue a permit unless it finds that the permittee is in substantial compliance.

DNR's *Environmental Enforcement Handbook* states that:

> "To assure continued operation of an efficient and effective permitting program, it is imperative that any permit nearing its expiration date be reviewed to determine compliance status. It is recommended that this review be undertaken at or about 6 months prior to permit expiration, but a substantial compliance review must be made in all instances prior to the reissuance of a permit."

In addition, s. 283.53 (3), Wis. Stats., provides that DNR may not reissue a permit unless it finds that the permittee is in substantial compliance with the terms of its permit.

DNR staff indicated that they do not reissue permits for municipal and industrial permittees unless they first determine that a permittee is in substantial compliance with the terms of its permit. If a permittee is not in substantial compliance, DNR typically continues the expired permit through an administrative extension and issues a new permit when the permittee returns to substantial compliance.

We attempted to determine the extent to which DNR determined that municipal and industrial permittees were in substantial compliance approximately six months before reissuing their permits. However, DNR staff did not electronically record this information for more than one-half of the municipal and industrial permits reissued from 2005 through 2014. DNR staff indicated that a finding of substantial compliance was likely made in all of these cases and documented in some form but not consistently recorded in the WPDES database.

We analyzed the 742 instances in which DNR staff had recorded a determination of substantial compliance related to permit reissuances for municipal and industrial permittees. We found that DNR made a determination of substantial compliance for:

- 13 permittees (1.8 percent) over six months before their permits expired, which is too long before expiration based on DNR's policies;

- 233 permittees (31.4 percent) six or fewer months before their permits expired, which is consistent with DNR's policy; and

- 496 permittees (66.8 percent) after permit expiration but before permit reissuance, which is not timely based on DNR policies but may have still provided compliance information useful in reissuing the permits.

DNR uses a 19-question checklist to determine whether CAFO permittees are in substantial compliance with their permits.

For CAFO permittees, DNR determines substantial compliance through inspections. It conducts inspections using a 19-question checklist to help it determine whether permittees are in substantial compliance with the terms of their permits prior to reissuance. DNR staff indicated that full inspections are needed to assess substantial compliance, which involves responding to all 19 checklist questions.

Completing the entire checklist involves an on-site inspection of CAFO production areas, including the locations where animals are housed, where animal feed is stored, and where manure is kept. The checklist also involves a review of reporting requirements, nutrient

management plans, permittee self-monitoring responsibilities, and any instances of permit violations. The final question on the checklist requires the DNR staff person conducting the inspection to make a determination regarding whether the permittee is in substantial compliance with its permit.

DNR inspected 17 CAFO permittees (6.5 percent) after their permits had already been reissued.

Although DNR's enforcement policies indicate that a substantial compliance inspection be made approximately six months before permit expiration, other DNR documents indicate that inspections to determine substantial compliance for CAFO permittees be conducted 240 days before permit expiration, and DNR staff indicated that the typical practice is to conduct a substantial compliance inspection up to 12 months before a permit expires, based on scheduling issues and workload demands. We analyzed the 260 CAFO permits that expired and were reissued from 2006 through 2014 and found that DNR:

- inspected 51 permittees (19.6 percent) more than 12 months before their permits expired, which is too long before permit expiration based on both DNR's policies and its stated practices;
- inspected 129 permittees (49.6 percent) 12 or fewer months before their permits expired, which is consistent with the practice DNR staff said they typically followed;
- inspected 61 permittees (23.5 percent) after permit expiration but before permit reissuance, which is not timely based on DNR's policies but may still have provided compliance information useful in reissuing the permits;
- inspected 17 permittees (6.5 percent) after both permit expiration and permit reissuance, which violates statutory requirements and is neither timely nor useful to the permitting process; and
- provided no documentation of inspections for 2 permittees (0.8 percent) even though DNR reissued permits in both cases, including one permittee that appears to have been reissued permits twice without being inspected by DNR staff.

Of the 51 CAFO permittees that DNR inspected more than 12 months before permit expiration:

- 39 had inspections that occurred more than 12 months and up to 3 years before permit expiration;
- 4 had inspections that occurred more than 3 years and up to 5 years before permit expiration;
- 7 had inspections that occurred more than 5 years and up to 7 years before permit expiration; and
- 1 had an inspection that occurred more than 7 years before permit expiration.

DNR believes that in some of these cases additional inspections were conducted but were not documented by staff.

We question the usefulness of basing substantial compliance determinations on inspections that occur more than 12 months before permit expiration.

We question the usefulness of basing substantial compliance determinations on inspections that occur more than 12 months before permit expiration. Conditions may have changed on these farms during the intervening months that could affect permittees' compliance but which would likely go unaddressed until their permits are due to be reissued after an additional five years.

As noted, statutes provide that DNR may not reissue a permit unless it finds that the permittee is in substantial compliance with the terms of its permit. From 2005 through 2014, we analyzed the results of 477 CAFO inspections that made a determination of substantial compliance. We found 87 instances (18.2 percent) in which DNR found permittees were not in substantial compliance with their permits. When a CAFO permittee is not in substantial compliance, DNR staff indicated that they inform the permittee of what is required to come into substantial compliance and follow up with permittees in these instances to ensure they are in substantial compliance before reissuing a permit.

The most common area of noncompliance for CAFO permittees was in managing animal feed storage areas.

The most common area of noncompliance for CAFO permittees was in managing animal feed storage areas. Animal feed has the potential to pollute surface water and groundwater if not properly contained. Of the 479 inspections that reviewed animal feed storage areas, permittees were found to be noncompliant in 132 instances (27.6 percent), which includes 65 of the 87 instances (74.7 percent) in which permittees were found not to be in substantial compliance with their permits. DNR is currently working on educational materials to distribute to permittees to provide additional guidance on the management of animal feed storage areas.

☑ Recommendation

We recommend the Department of Natural Resources develop a plan to:

- *ensure that records of all inspections and determinations of substantial compliance are entered into the WPDES database;*
- *ensure that all WPDES permittees are inspected within 12 months before expiration of their current permits;*
- *ensure that WPDES permittees are determined to be in substantial compliance with the terms of their permits before DNR reissues the permits, as required by statutes; and*
- *report to the Joint Legislative Audit Committee on the status of these efforts by November 1, 2016.*

■■■■

Enforcement Efforts ■

DNR's policies require it to take enforcement actions to obtain compliance and prevent environmental harm when permittees violate the conditions of their permits. We analyzed DNR's adherence to its policies and the consistency of its enforcement actions from 2005 through 2014. We found that DNR often did not take an enforcement action directed by its policies for municipal and industrial permittees, and there was substantial variation in the enforcement actions taken for all permittees among DNR's regions. We make recommendations for DNR to improve its enforcement practices.

WPDES Enforcement Process

DNR has established a stepped enforcement process for responding to permit violations.

When making enforcement decisions, DNR staff are to consider several factors, such as the potential harm to the environment, the number of violations committed by the permittee, the magnitude of the violations, whether the permittee willfully violated the terms of its permit, and whether the permittee is taking corrective actions. DNR has established a stepped enforcement process for responding to permit violations based on the relative threat posed to the State's water resources. As shown in Table 12, there are five stages in DNR's stepped enforcement process.

Table 12

DNR's Enforcement Process

Enforcement Step	Action Taken by DNR	Examples of Situations When Action is Taken	Number of Actions Taken from 2005 through 2014
Informal Contact with the Permittee	Conversation between DNR staff and permittee	Isolated and minor violations that have no impact on water quality	Unknown
Notice of Noncompliance	Letter identifying violations	Failure to respond to informal contact, repeated failure to submit reports, or violations with the potential to harm the environment	838 notices issued to 417 municipal and industrial permittees; 117 notices issued to 79 CAFOs
Notice of Violation	Letter identifying violations that may include steps required to come into compliance with terms enforceable by DNR	Failure to respond to a notice of noncompliance, failure to address multiple minor violations, or a violation with evidence of environmental harm	267 notices issued to 152 municipal and industrial permittees; 88 notices issued to 58 CAFOs
Enforcement Conference	In-person meeting between DNR staff and permittee; legal representatives may be present	Failure to resolve issues indicated in a notice of violation or that also require an in-person discussion to explore the cause and possible solutions to a problem	161 enforcement conferences held with 114 municipal and industrial permittees; 67 conferences held with 48 CAFOs
Referral to Law Enforcement	Permittee is typically referred to the Department of Justice	Willful or severely negligent violations, isolated violations severely harming water quality, or repeated violations with evidence of harm to water quality	24 referrals of 21 municipal and industrial permittees; 16 referrals of 16 CAFOs

Permit Violations and Enforcement Actions for Municipal and Industrial Permittees

The majority of violations for municipal and industrial permittees are categorized into four types:

- exceeding permit limits based on either the concentration or mass of pollutants in the permittee's effluent or, for those permittees that are required to install monitoring wells and test groundwater, the contamination of groundwater when it violates groundwater standards;
- submitting reports after their due dates;
- omitting data from required reports, such as effluent test results for certain days; and
- reporting data that are clearly erroneous, such as reporting a pH level outside of the possible range of 0 to 14.

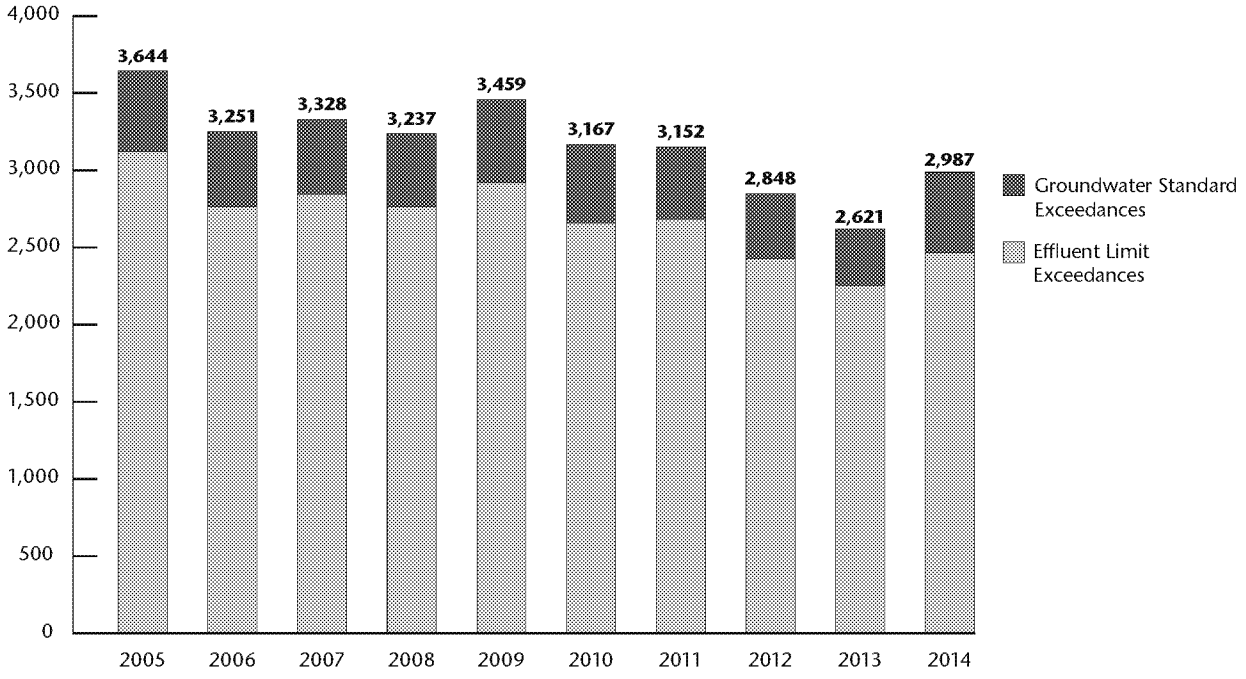
All municipal and industrial permittees are required to test the effluent they discharge to ensure they comply with permit limits.

We focused our analysis on permit violations for exceedances of effluent limits and groundwater standards from 2005 through 2014. All municipal and industrial permittees are required to test the effluent they discharge to ensure they comply with limits established in their permits. In addition, some municipal and industrial permittees were required to install monitoring wells and test groundwater during all or a portion of the 10-year period we reviewed. From 2005 through 2014, approximately 84 percent of all exceedances were of effluent limits and 16 percent were of groundwater standards.

As shown in Figure 15, the number of yearly effluent exceedances has varied over time with an overall downward trend since 2009. The decline in the number of exceedances from 3,459 in 2009 to 2,621 in 2013 (24.2 percent) reflects, in part, a 3.8 percent reduction in the number of municipal and industrial permittees from 1,027 in 2009 to 988 in 2013. In addition, while the number of exceedances increased by 366 (14.0 percent) from 2013 to 2014, the number of municipal and industrial permittees increased by only 4 (0.4 percent) during this period. The reasons for the increase in exceedances in 2014 were not apparent based on the monitoring data we analyzed.

Figure 15

Number of Effluent Limit and Groundwater Standard Exceedances for Municipal and Industrial Permittees



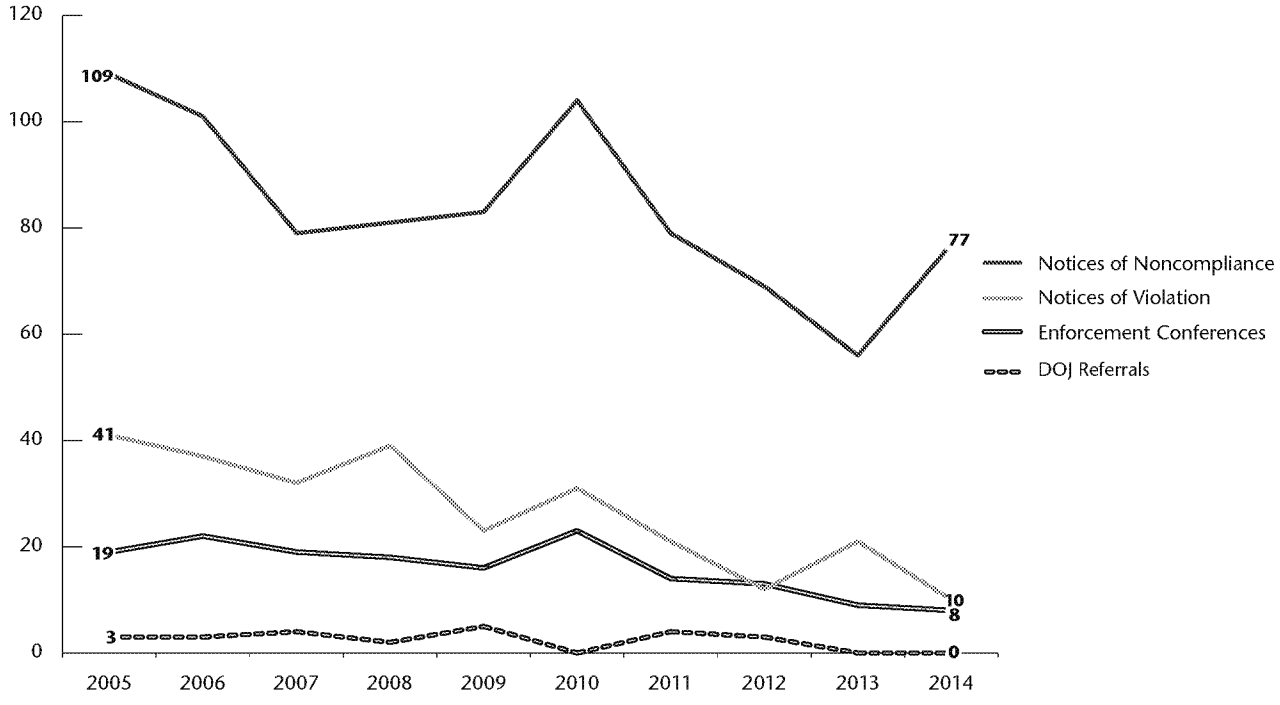
Enforcement actions taken by DNR for municipal and industrial permittees showed a general decline from 2005 through 2014.

We analyzed the number of enforcement actions DNR took for municipal and industrial permittees during our audit period. As shown in Figure 16, we found that the number of enforcement actions generally declined from 2005 through 2014, with the exception of an increase in the number of notices of noncompliance in 2014. The number of notices of violation declined 75.6 percent from 41 in 2005 to 10 in 2014. In addition, DNR made three referrals to DOJ in 2005, but none in either 2013 or 2014.

The percentage of municipal and industrial permittees for which DNR took at least one enforcement action decreased from 11.5 percent in 2005 to 7.5 percent in 2014. From 2005 through 2014, DNR initiated at least one enforcement action for 483 municipal and industrial permittees (42.3 percent).

Figure 16

Estimated Number of Enforcement Actions Taken by DNR for Municipal and Industrial Permittees[1]



[1] Includes only those enforcement actions that appeared to be related to municipal and industrial permittees, and excludes those for other activities, such as those for construction sites, nonmetallic mining operations, and pesticide application for the control of algae and aquatic plants.

From 2005 through 2014, DNR issued 267 notices of violation to 152 permittees, with 95 permittees (62.5 percent) receiving one notice and the remaining 57 permittees (37.5 percent) receiving two or more notices. Eleven of these permittees received between four and seven notices each, and one industrial dairy processor in Clark County received a total of 19 notices during this period. This permittee was referred to DOJ for exceeding effluent limits and was subsequently required to pay $300,000 in forfeitures and other costs as part of a 2014 settlement agreement.

From 2005 through 2014, DNR held 161 enforcement conferences with 114 permittees, including five permittees that had four or more enforcement conferences. Of these, one municipal permittee in Fond du Lac County had seven enforcement conferences with DNR from February 2005 through May 2014. In November 2005, this permittee was referred to DOJ for discharging untreated effluent and exceeding its effluent limits and, as part of a January 2006 settlement agreement, was required to pay $3,000 in forfeitures and other costs.

DNR may refer cases of noncompliance to DOJ for pursuit of civil or criminal penalties.

Statutes do not authorize DNR to issue citations to individual permittees. Instead, DNR may refer cases of noncompliance to DOJ for pursuit of civil or criminal penalties. Of the 21 permittees referred to DOJ, three permittees were referred twice. If referred for prosecution, s. 283.91, Wis. Stats., allows for penalties ranging from $10,000 to $50,000 for each day a permit violation occurs and imprisonment up to one year, depending on the severity of the violation and whether the permittee has been previously convicted of a WPDES program violation. Statutes also allow a court to assess as an additional penalty the costs for investigating and prosecuting the permittee.

DNR officials note that referring a case to law enforcement requires many hours of work on the part of DNR staff in order to prepare sufficient documentation to support a legal case and to coordinate with DOJ attorneys. They indicated that such a referral is considered only after other options have been exhausted and the permittee has still not come into compliance.

From 2005 through 2014, DNR referred 21 municipal and industrial permittees to DOJ for prosecution.

DNR does not comprehensively track the outcome of its referrals. Therefore, we gathered information on violations referred to DOJ from court documents and the available information maintained by DOJ and DNR. From 2005 through 2014, DNR referred 21 municipal and industrial permittees to DOJ for prosecution, which resulted in 24 settlement agreements. These 24 settlement agreements included forfeitures, surcharges, and other costs assessed on permittees that ranged from $3,000 to $3.0 million, with a median amount of $30,500. Examples of settlement agreements for municipal and industrial permittees include:

- A 2006 settlement agreement for an overflow of untreated wastewater by a municipal wastewater treatment plant in Dodge County required the permittee to pay $18,000 in forfeitures and other costs, inspect and repair its wastewater collection system, and submit annual progress reports and maintenance records to DNR.

- A 2009 settlement agreement for improper sludge application, including application on sites not included in its permit, by an industrial dairy processor in Marathon County required the permittee to pay $120,000 in forfeitures and other costs and upgrade its sludge handling capability, and it also gave DNR the option to order the permittee to construct a new wastewater tank.

- A 2010 settlement agreement for the discharge of untreated effluent, exceedances of effluent limits, failure to sample, and failure to submit a facility plan by a municipal permittee in Dodge County required the permittee to pay an estimated $3.0 million for construction of a new wastewater treatment plant, as well as $5,000 in forfeitures and other costs, and to inspect and repair its current wastewater collection system.

- A 2014 settlement agreement for exceedances of effluent limits by an industrial dairy processor in Clark County required the permittee to pay $300,000 in forfeitures and other costs.

In addition to the payment of forfeitures and specified costs, 13 of the 24 settlement agreements also contained other requirements, such as requiring permittees to upgrade their treatment processes, inspect or upgrade their collection systems, and prepare facility plans to improve compliance. The cost of these requirements is unknown.

Permit Violations and Enforcement Actions for CAFO Permittees

DNR has established four primary categories of violations for CAFO permittees:

- failing to prevent the discharge of manure or waste to surface water or groundwater;

- spreading manure in violation of applicable standards or the permittee's nutrient management plan;

- unapproved construction or expansion of facilities; and

- submitting reports or other required materials after their due dates.

From 2005 through 2014, the number of enforcement actions taken for CAFO permittees generally increased.

We analyzed the number of enforcement actions for CAFO permittees from 2005 through 2014. Unlike municipal and industrial enforcement actions, DNR centrally compiles comprehensive information on all enforcement actions taken for CAFO permittees. As shown in Table 13, the number of enforcement actions taken for CAFO permittees has generally increased over time. This is likely attributable, in part, to the significant growth in the number of

CAFOs during this period. However, we note that from 2008 to 2009, there was a 283.3 percent increase in CAFO enforcement actions but only a 5.6 percent increase in the number of CAFO permittees. DNR attributed the increase in enforcement actions to staff hired in 2008 who received revised training related to the use of DNR's stepped enforcement process and who subsequently identified compliance issues while reviewing permits to be reissued. For example, while DNR issued no notices of noncompliance for CAFO permittees in either 2005 or 2006, and few notices in 2007 and 2008, in 2009 it began issuing notices of noncompliance more frequently.

Table 13

Enforcement Actions Involving CAFO Permittees

Year	Notice of Noncompliance	Notice of Violation	Enforcement Conference	Referrals[1]	Total
2005	0	2	1	3	6
2006	0	5	5	1	11
2007	2	2	1	1	6
2008	4	4	3	1	12
2009	10	21	12	3	46
2010	15	17	14	4	50
2011	19	13	11	0	43
2012	20	3	2	1	26
2013	15	12	8	0	35
2014	32	9	10	2	53
Total	**117**	**88**	**67**	**16**	**288**

[1] Fifteen referrals were to DOJ and one 2009 referral was to the Brown County Land Conservation Department.

From 2005 through 2014, DNR initiated at least one enforcement action for 106 CAFO permittees (38.0 percent).

The percentage of CAFO permittees for which DNR took at least one enforcement action increased from 3.4 percent in 2005 to 14.4 percent in 2014. From 2005 through 2014, DNR initiated at least one enforcement action for 106 CAFO permittees (38.0 percent). In addition, DNR initiated five or more enforcement actions for 20 CAFO permittees (7.2 percent) during this period, including three permittees that each had eight enforcement actions. Table 14 shows the primary violations that resulted in an enforcement action for CAFO permittees from 2005 through 2014.

Table 14

Primary CAFO Violations Resulting in Enforcement Action
2005 through 2014

Violation Type	Number of Violations	Percentage
Manure Spreading Violation	70	24.3%
Failure to Prevent Discharge to Groundwater or Surface Water	63	21.9
Failure to Submit Reports or Other Documents on Time	53	18.4
Unapproved Construction	14	4.9
Other[1]	88	30.6
Total	**288**	**100.0%**

[1] Includes 63 violations that could not be categorized because of insufficient information maintained in the WPDES program's electronic database.

From 2005 through 2014, DNR referred 15 CAFO permittees to DOJ for prosecution.

As noted, DNR is not authorized to issue citations to permittees for permit violations. Instead, DNR may refer a case of noncompliance to law enforcement, typically to DOJ, for pursuit of civil or criminal penalties. The statutory penalties for CAFO permittees are the same as those for municipal and industrial permittees. From 2005 through 2014, DNR referred 16 CAFO permittees, including 15 referrals to DOJ and one to the Brown County Land Conservation Department. Of these 16 referrals, 15 resulted in settlement agreements and one referral made to DOJ in December 2014 was still pending as of December 2015. The 15 settlement agreements included forfeitures, statutory surcharges, and other costs assessed on permittees that ranged from $12,500 to $492,000, with a median amount of $58,900. However, the cost of any required facility improvements was generally not identified in the settlement agreements. Examples of settlement agreements for CAFO permittees include:

- A 2006 settlement agreement for the discharge of manure into surface water, failure to report the discharges to DNR, and failure to control runoff by a CAFO permittee in Dodge County required the permittee to pay $400,000 for facility improvements and $92,000 in forfeitures and other costs, including well replacement for nearby property owners whose wells were contaminated.

- A 2009 settlement agreement for the discharge of 10,000 gallons of manure, overflow of a manure lagoon, and the unallowable burning of waste materials, including rubber bedding, by a CAFO permittee in Manitowoc County required the permittee to pay $85,000 in forfeitures and other costs.

- A 2013 settlement agreement for discharging pollutants to a tributary of Lake Michigan, discharging fill material into wetlands without proper certification, and burning plastics outdoors by a CAFO permittee in Kewaunee County required the permittee to pay $100,000 in forfeitures and other costs.

Appropriateness, Consistency, and Timeliness of Enforcement Actions

DNR's *Environmental Enforcement Handbook* establishes policies for determining when to pursue an enforcement action and the type of action that should be taken. Using the available data, we attempted to determine whether DNR's enforcement actions were appropriate, consistent with DNR policies, and timely.

Municipal and Industrial Enforcement Actions

DNR's policies establish the criteria for determining when notices of violation "should be issued."

DNR's policies state that an enforcement response should always be initiated as soon after an incident of noncompliance as possible, and that any exceedance over a permit limit is a violation of the permit. However, not all violations are severe enough to warrant an enforcement response. Therefore, we reviewed the available data to determine whether the actions DNR took in response to permit violations were consistent with its policies. Specifically, DNR's *Environmental Enforcement Handbook* establishes the criteria for determining when notices of violation "should be issued" in response to effluent violations and late reporting. The criteria vary based on the severity and frequency of exceedances, as well as the frequency of required effluent sampling or reporting. For example, DNR's policies indicate that a notice of violation should be issued when:

- the level of biological oxygen demand in sampled effluent exceeds the permit limit by 30 percent for either three consecutive months or any four months in a 12-month period;

- the concentration of suspended solids in sampled effluent exceeds the permit limit by 20 percent or more for three weeks in a monthly reporting period;

- the amount of metals in sampled effluent exceeds the permit limit by 20 percent or more for one day when fewer than four samples are taken in a reporting period; or

- a permittee submits monitoring reports more than 30 days late during three consecutive reporting periods.

DNR issued a notice of violation to municipal and industrial permittees for only 33 of the 558 instances (5.9 percent) for which a notice of violation should have been issued based on its policies.

As shown in Table 15, we identified at least 558 instances that met DNR's criteria for issuing a notice of violation to municipal and industrial permittees, including 403 instances related to effluent limits and 155 related to late reporting. We found that DNR issued notices of violation for only 33 of the 558 instances (5.9 percent) for which a notice of violation should have been issued. Moreover, of the 33 notices of violation that DNR issued, 17 (51.5 percent) did not address all of the effluent and reporting violations for which a notice of violation should have been issued based on DNR's enforcement policies.

Table 15

Selected Notices of Violation for Municipal and Industrial Permittees
2005 through 2014

Type of Violation	Number of Notices of Violation DNR Should Have Issued[1]	Number of Notices of Violation DNR Actually Issued[2]	Percentage
Exceeding Effluent Limits	403	30	7.4%
Late Reporting	155	3	1.9
Total	**558**	**33**	5.9

[1] Based on the criteria established in DNR's policies.

[2] Includes 16 notices of violation that addressed all of the violations for which a notice should have been issued and 17 notices that addressed only some of the violations for which a notice should have been issued based on DNR's policies.

From 2005 through 2014, DNR issued neither a notice of violation nor a notice of noncompliance in 83.7 percent of the instances in which a notice of violation should have been issued to a municipal or industrial permittee.

Although inconsistent with its written policies, DNR staff indicated that they issue a notice of noncompliance instead of a notice of violation in some cases if, in their judgment, such action represents an appropriate step toward achieving compliance. However, in many of the instances in which DNR did not issue a notice of violation or a notice of noncompliance. We reviewed information on the 838 notices of noncompliance that DNR issued for municipal and industrial permittees from 2005 through 2014. We found that no more than 58 notices of noncompliance had been issued in response to the 558 instances in which a notice of violation should have been issued, including 46 for effluent exceedances and 12 for late reporting. Therefore, for 467 of the 558 instances (83.7 percent) in which municipal and industrial permittees should have received a notice of violation for effluent exceedances or late reporting, DNR issued neither a notice of violation nor a notice of noncompliance.

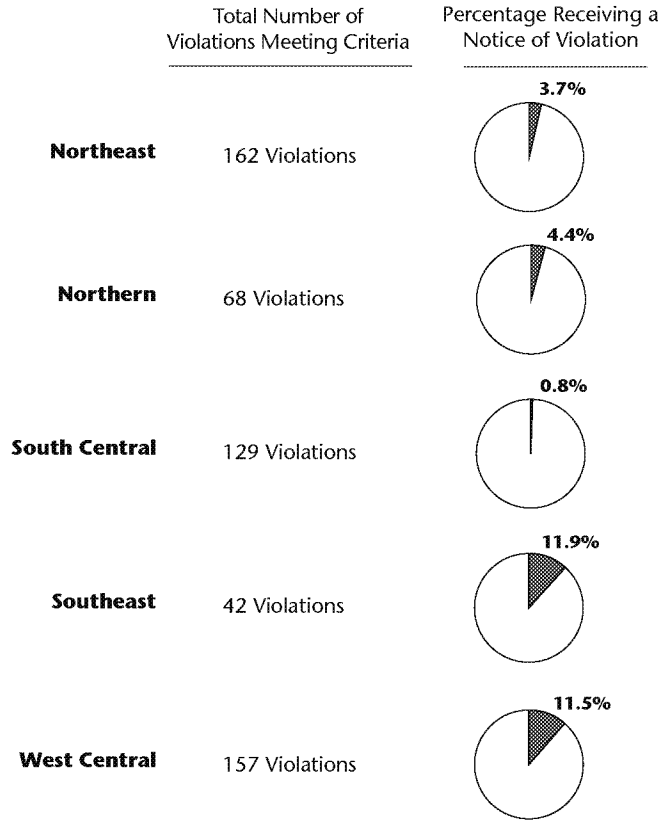
Because DNR policies indicate that appropriate judgment needs to be used in determining whether to take an enforcement action, it would not be expected that a notice of violation would be issued in every instance in which a permittee's violations met DNR's criteria for issuing a notice of violation. However, the large variance between when DNR policies state that notices of violation should be issued and when DNR actually issued them suggests that appropriate enforcement action was not always taken. In addition, DNR's enforcement actions may not always be timely. When DNR does issue notices of violation, it is not uncommon for the letters to identify multiple violations spanning months or years that could have resulted in the issuance of several notices of violation under its policies.

We found variations in the extent to which notices of violation for municipal and industrial permittees were issued by DNR regions.

To further assess the consistency of DNR's enforcement efforts, we analyzed by region the extent to which DNR issued notices of violation to permittees with effluent limit and reporting violations when they met DNR policies for issuing such a notice. As shown in Figure 17, the extent to which these notices were issued varied from 0.8 percent of the time for the South Central Region to 11.9 percent for the Southeast Region.

Figure 17

Percentage of Violations Meeting the Criteria for DNR to Issue a Notice of Violation in Which a Notice Was Actually Issued[1]
2005 through 2014



[1] Includes effluent limit and reporting violations by municipal and industrial permittees.

In some instances, DNR appears to have taken inconsistent enforcement actions for similar types of violations.

We also identified some instances in which DNR appears to have taken inconsistent enforcement actions for similar types of violations. For example:

- In July 2007, DNR issued a notice of violation to a municipal permittee in Trempealeau County for exceeding, from February through May 2007, its weekly effluent limit for biochemical oxygen demand 16 times by an average of 17 milligrams per liter (mg/L) and its monthly effluent limit 4 times by an average of 33 mg/L. From January through July 2014, a municipal permittee in Shawano County exceeded its weekly effluent

limit for biochemical oxygen demand 16 times by an average of 35 mg/L and its monthly effluent limit 6 times by an average of 33 mg/L, and DNR issued a notice of noncompliance in October 2014 rather than a notice of violation.

- In February 2006, DNR issued a notice of violation to a municipal permittee in Oconto County for exceeding, from January 2005 through January 2006, its weekly ammonia limit 34 times by an average of 14 mg/L. A municipal permittee in Dane County exceeded its weekly ammonia limit 38 times by an average of 12 mg/L during the same period, and DNR did not issue a notice of violation.

- In July 2012, DNR issued a notice of violation to a municipal permittee in Sheboygan County for exceeding its monthly phosphorus limit 8 times in the preceding 12 months by an average of 1.3 mg/L. In 2011, a municipal permittee in Grant County exceeded its monthly phosphorus limit for 12 consecutive months by an average of 2.6 mg/L, and DNR did not issue a notice of violation.

There may be several reasons for the large discrepancy between the number of violations that meet the criteria for issuing a notice of violation and the number of notices actually issued, such as staff vacancies, inconsistent enforcement practices among DNR staff, and failure to electronically record some notices of violations that were issued. In addition, mitigating circumstances may lead DNR staff to adopt a less forceful approach with the intent of bringing a permittee into compliance promptly and to avoid the negative reaction a notice of violation may engender.

Adequate, consistent, and timely enforcement is important to ensuring the integrity of the WPDES program.

DNR's enforcement policies also emphasize the need to ensure that enforcement decisions are made based on factors specific to each permittee and compliance situation. Although such factors need to be taken into account, an enforcement approach that emphasizes factors that are unique to a permittee and diminishes factors that are similar to other permittees may also inadvertently contribute to inconsistent enforcement among DNR's regional staff and raise concerns among permittees about perceived inequitable treatment. In addition, while overly aggressive enforcement of program policies and regulations would likely be viewed as unnecessarily burdensome on permittees and could have a negative effect on the business climate, adequate, consistent, and timely enforcement is important to ensuring the integrity of the WPDES program.

☑ Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in issuing notices of violation for municipal and industrial permittees based on its established policies;*
- *develop a strategy to increase the consistency between its enforcement policies and its actual practice of issuing notices of violation for municipal and industrial permittees; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its efforts.*

CAFO Enforcement Actions

Unlike municipal and industrial permittees who submit monthly electronic monitoring reports that DNR uses to identify permit violations, violations by CAFO permittees are identified through self-reporting, DNR inspections, and citizen complaints. Based on how this information is recorded and stored, there were no electronic data available that we could use to analyze the extent to which violations by CAFO permittees resulted in some type of enforcement action by DNR.

DNR's Northeast Region was an outlier for CAFO enforcement.

We used the information DNR does electronically record on the enforcement actions it takes with CAFO permittees to assess variations in the extent of its actions. As noted, these enforcement actions include notices of noncompliance, notices of violation, enforcement conferences, and referrals to law enforcement. As shown in Table 16, the percentage of CAFO permittees for which DNR took at least one enforcement action from 2005 through 2014 ranged from 17.6 percent in the Northern Region to 56.8 percent in the Northeast Region. The Northeast Region was an outlier, and 19 of the 20 CAFO permittees for which DNR took five or more enforcement actions were located in this region. The variation in the percentage of enforcement actions for CAFO permittees among regions may be largely based on differences in the number of CAFO-related complaints received by each region. This is because, as noted, CAFO enforcement relies heavily on permittee self-reporting and complaints from citizens and environmental groups made to DNR. However, the variation may also be the result of staff turnover and differing individual or regional approaches to enforcement.

Table 16

CAFO Permittees with Enforcement Actions
2005 through 2014

DNR Region	Number of CAFO Permittees[1]	Percentage of CAFO Permittees with at Least One Enforcement Action
Northeast	111	56.8%
Northern	17	17.6
South Central	57	26.3
Southeast	25	20.0
West Central	69	29.0
Total	**279**	38.0

[1] Each CAFO was counted once regardless of the number of years of operation during the review period.

We also analyzed the timeliness with which DNR exercised its enforcement authority. As shown in Table 17, the number of days DNR took after a violation occurred to issue an enforcement action increased as the enforcement action became more severe. This reflects DNR's stepped enforcement approach in which more severe enforcement actions, such as enforcement conferences and referrals to law enforcement, are typically taken in those instances in which compliance is not achieved with the initial approaches of issuing notices of noncompliance and notices of violation.

Table 17

Average Number of Days for CAFO Enforcement Actions
2005 through 2014

Enforcement Action	Average Number of Days Enforcement Action Is Taken After a Violation Is Identified
Notice of Noncompliance	43
Notice of Violation	139
Enforcement Conference	176
Referral to Law Enforcement[1]	358

[1] Includes 15 referrals to DOJ and one referral to the Brown County Land Conservation Department.

Given the variation in the percentage of enforcement actions taken for CAFO permittees among DNR's regions, we believe additional attention is needed to ensure these variations reflect differences in the extent to which DNR is made aware of violations and the relative threat posed by the violations, rather than the potential lack of a consistent approach by DNR staff to enforcing permit requirements among CAFO permittees.

☑ Recommendation

We recommend the Department of Natural Resources:

- *determine the extent to which differences in the percentage of enforcement actions for CAFO permittees between the Northeast Region and other regions can be explained by efforts to address the complaints that are received;*

- *review a sample of enforcement actions taken for CAFO permittees statewide and, where needed, provide training to its staff to increase the consistency of its enforcement actions throughout the state; and*

- *report to the Joint Legislative Audit Committee by November 1, 2016, on its efforts.*

■ ■ ■ ■

Future Considerations ■

Several ongoing issues may affect the future administration and cost to permittees of the WPDES program. These issues include whether EPA will grant Wisconsin a statewide variance for the much stricter limits on the discharge of effluent containing phosphorus that have recently been promulgated, the extent to which DNR will address numerous concerns raised by EPA about the adequacy of state statutes and administrative rules governing the WPDES program, and the extent to which farming activities in northeastern Wisconsin are contributing to groundwater contamination.

Changes to Phosphorus Limits

Phosphorus is a chemical element that is present in manure, municipal sewage, and some industrial waste. Consequently, the effluent discharged and the sludge and other waste products spread on fields and crops by permittees commonly contains phosphorus. Excessive phosphorus in surface waters can lead to algae blooms that may have adverse effects on human health and aquatic life.

The WPDES program has historically restricted the amount of phosphorus that may be present in the effluent discharged by municipal and industrial permittees.

The WPDES program has historically restricted the amount of phosphorus that may be present in the effluent discharged by municipal and industrial permittees. Recently, new water-quality based standards that would further restrict some permittees' phosphorus limits were established in an effort to better protect surface waters. In 1998, EPA requested that states begin to develop new water-quality based standards for phosphorus and nitrogen

through a policy document known as the National Nutrient Strategy. In order to determine the effects of these substances in water bodies, DNR partnered with the United States Geological Survey to conduct a study.

Because data were already available on lakes, the study focused on rivers and streams. Based on work completed during the course of approximately eight years, the study found a strong relationship between phosphorus and algae growth but not between nitrogen and algae growth. DNR was working to incorporate the findings of this study into practicable water quality standards when a group of seven nonprofit environmental organizations informed EPA in November 2009 that they intended to file suit against DNR for failing to protect water quality by not establishing adequate phosphorus standards for Wisconsin. EPA responded to the threat of the suit by negotiating with DNR on the implementation of new phosphorus standards.

In December 2010, DNR established a new process for calculating phosphorus limits that would reduce the amount allowed to be discharged.

As a result of these negotiations, DNR established a new process for calculating phosphorus limits through the promulgation of administrative rules in December 2010. These changes generally reduced the amount of phosphorus that is allowed in the effluent of municipal and industrial permittees from 1.0 part per million to a level that limits the amount of phosphorus in the receiving water to 0.1 parts per million, which is based on a calculation that takes into account the volume, flow, and quality of the receiving water. As noted, there was a delay in implementing these standards in 2011 as DNR worked to translate the rules into workable permit limits and obtain EPA's approval.

In October 2015, DOA found that implementing the new phosphorus standards would cause "substantial and widespread adverse social and economic impacts."

Because of concerns about the potential effects of complying with the new phosphorus limits, the Legislature passed 2014 Wisconsin Act 378, which directed DOA to determine whether meeting the phosphorus discharge limits would be feasible without causing substantial adverse effects. In October 2015, DOA released its determination on the feasibility of complying with phosphorus limits established by chs. NR 102 and 217, Wis. Adm. Code, and directed DNR to request a statewide multi-discharger variance from EPA because DOA found that "implementation of the Wisconsin water quality standards will cause substantial and widespread adverse social and economic impacts." DOA estimated the cost to comply with the phosphorus limits, as promulgated, would total at least $3.4 billion in capital investments, with the potential of additional debt service and operating costs of up to $700 million per year. These costs are largely related to the need of permittees to upgrade their physical plants and treatment processes to remove phosphorus.

DNR is optimistic that EPA will approve a statewide variance to phosphorus discharge limits.

The proposed statewide multi-discharger variance would allow permittees to achieve phosphorus limits based on interim reductions over approximately 20 years in conjunction with a requirement for permittees to pay counties $50 per pound of phosphorus discharged in excess of their target levels in order to help fund other strategies to mitigate the amount of phosphorus in surface waters, such as assisting farmers to reduce runoff. DNR officials are optimistic that its request for a statewide multi-discharger variance will be approved by EPA later in 2016.

The municipal and industrial permittees with whom we spoke noted that it is costly for them to reduce their phosphorus discharges to a level required by the new rules. DNR believes that the most effective and least costly means of reducing the amount of phosphorus in surface waters is by reducing runoff from farm fields, which it believes is the single largest source of phosphorus pollution in the state.

EPA Review of Wisconsin Laws

In July 2011, EPA identified 75 issues with the statutes and rules governing the WPDES program.

In 2009, staff in EPA's Region 5 conducted a review to determine whether the six states it oversees, including Wisconsin, had established the minimum legal authority to adequately administer their respective wastewater programs in accordance with the Clean Water Act. In July 2011, EPA's Region 5 administrator issued a letter to DNR that identified 75 issues with the statutes and rules governing the WPDES program that EPA indicated needed to be addressed. Most were related to inconsistencies EPA identified between language in DNR's administrative rules, state statutes, and the Clean Water Act. For example, EPA indicated that:

- both statutes and administrative rules should provide a mechanism for terminating a WPDES permit and allow an interested person to request a permit modification, revocation, reissuance, or termination;

- administrative rules should identify circumstances when best management practices must be included as conditions in permits; and

- statutes and administrative rules should be revised to allow any interested person to request a hearing pertaining to a draft permit, rather than a group of five or more individuals, which is the current requirement.

Of the 75 issues, 64 affect the municipal, industrial, and CAFO permits included in our review, and the other 11 affect storm water permits. Each of the 75 issues, DNR's proposed actions, and the date completed or anticipated for completion is shown in Appendix 4.

Of the 64 issues affecting the permittees included in our review, 33 (51.6 percent) were addressed as of April 2016.

EPA's July 2011 letter directed DNR to promulgate the necessary administrative rules within one year and to achieve statutory revisions within two years. Based on DNR staff comments and other documents we reviewed, the time needed to study the issues and complete the rulemaking process did not allow DNR to meet the timeline specified by EPA. To assess DNR's progress, we requested information about its efforts to address each of the 75 issues. Of the 64 issues affecting the municipal, industrial, and CAFO permittees included in our review, 33 (51.6 percent) were addressed as of April 2016, and an additional 31 (48.4 percent) were in the process of being addressed.

Of the 31 issues in the process of being addressed, DNR estimated that the necessary rule promulgation and statutory revisions would be completed by autumn of 2017. Of the 11 issues affecting storm water permits, DNR indicated that four were completely addressed, but DNR did not provide an estimate regarding when the remaining seven issues would be addressed. EPA will make the final determination on the extent to which Wisconsin has satisfactorily addressed the 75 issues identified in its July 2011 letter.

In October 2015, 14 petitioners represented by a nonprofit environmental law center filed a citizen petition for corrective action with EPA, because they believed that:

- DNR did not take adequate action to address the deficiencies outlined in EPA's July 2011 letter;
- Wisconsin's rulemaking process does not allow for timely revisions needed to comply with federal regulations, thereby limiting the State's ability to operate the program; and
- DNR lacked the staff and budgetary resources needed to implement the corrections EPA requested.

The petition requested EPA to take action to ensure that DNR correct deficiencies in the WPDES program, or in the case that action is not taken, that EPA assume administration of Wisconsin's program. DNR indicated it is unlikely that EPA would consider taking over responsibility for the WPDES program, partly because EPA lacks the staff to do so. Prior to withdrawing a state's authority

to administer a wastewater permitting program, federal law requires that a public hearing be held and that EPA find that a program is not being administered in accordance with federal law. In addition, a state has 90 days to address the deficiencies EPA identifies during this process.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on:

- *the status of its request to EPA for the statewide multi-discharger variance for phosphorus limits;*
- *its progress in addressing the 38 issues identified in EPA's July 2011 letter that were not addressed as of April 2016; and*
- *any actions EPA has taken as a result of the citizen petition.*

Addressing Groundwater Contamination in Kewaunee County

A random sample of 320 wells in Kewaunee County found that 110 (34.4 percent) were contaminated with bacteria or unsafe levels of nitrates.

In recent years, groundwater contamination in northeastern Wisconsin, especially in Kewaunee County, has become a concern. For example, voluntary testing of wells coordinated by Kewaunee County's Land and Water Conservation Department between 2004 and 2015 found that 180 (29.0 percent) of the 620 wells tested had unsafe levels of nitrates, bacteria, or both. Additionally, preliminary results from a study that conducted a random sample of 320 wells in Kewaunee County in November 2015 found that 110 (34.4 percent) were contaminated with bacteria or unsafe levels of nitrates. This study is funded by DNR and is being conducted by staff from the United States Department of Agriculture, UW-Oshkosh, UW-Stevens Point, and Kewaunee County. In the next phase of the study, researchers will use DNA to identify whether bacteria found in the wells comes from cattle or humans. This will help to determine whether the contamination is, for example, the result of manure spreading or leaking septic tanks.

Kewaunee County is especially susceptible to groundwater contamination because its topography is characterized by fractured bedrock covered by a thin layer of topsoil. In April 2015, voters in Kewaunee County approved a groundwater protection ordinance

that prohibits manure spreading from January through April 15 on land having 20 feet or less of topsoil before reaching bedrock.

DNR has formed five workgroups to study and make recommendations related to groundwater contamination in Kewaunee County.

Although DNR has not determined whether groundwater in Kewaunee County has been contaminated by CAFO operations, it has begun working with federal, state, and local agencies, as well as CAFO permittees, to study the issue. Initial discussions have resulted in the formation of five workgroups: Communications, Short-Term Solutions, Sensitive Areas/Best Management Practices, Compliance, and Alternative Practices. These workgroups are composed of DNR staff, county supervisors, county land and water conservation staff, permittees, EPA representatives, other state and federal representatives, and members of the public.

The workgroups were established to develop recommendations to address issues such as:

- the provision of safe drinking water to owners of contaminated wells;
- the identification of geographic areas most susceptible to groundwater contamination;
- the establishment of agricultural best management practices to reduce groundwater contamination in these areas; and
- the identification of future monitoring and research efforts to address the problem.

In winter and spring of 2016, the workgroups developed a series of recommendations. The recommendations are anticipated to be submitted to DNR in June 2016. Examples of recommendations receiving support from at least two-thirds of the voting workgroup members include that DNR conduct annual inspections of CAFO permittees, increase the frequency of inspections for fields on which manure is spread, and conduct more thorough reviews of annual reports submitted by CAFO permittees. While most of the recommendations are directed to DNR, others involve actions to be taken by local governments, local citizens, and EPA. DNR officials have begun to determine which, if any, of these recommendations they will pursue. However, implementing many of the recommendations would require additional staff to be authorized by the Governor and the Legislature.

☑ Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on:

- *the status of its efforts to address groundwater contamination in Kewaunee County and on any additional information that has become available concerning the likely source or sources of the contamination; and*

- *the extent to which it plans to implement the recommendations made by each of the five workgroups.*

■ ■ ■ ■

Appendices ■

Appendix 1

Selected Water Pollutants

Pollutant	Examples of Point Sources of Pollutants	Examples of Potential Environmental and Human Health Effects
Conventional Pollutants		
Biochemical Oxygen Demand[1]	Municipal Sewage, Industrial Processes, Manure	High levels limit the amount of dissolved oxygen needed by fish and other aquatic life.
Fecal Coliform Bacteria	Municipal Sewage, Manure	Causes gastrointestinal illnesses, anemia, and kidney damage.
High or Low pH	Industrial Processes	Harms aquatic life.
Oil and Grease	Municipal Sewage, Industrial Processes	Harms aquatic life.
Total Suspended Solids[2]	Municipal Sewage, Industrial Processes, Manure	Harms aquatic life by increasing water temperature, which lowers its ability to hold oxygen.
Nutrient Pollutants		
Nitrogen	Municipal Sewage, Manure	Leads to excessive algae growth that reduces oxygen levels and harms aquatic life.
Phosphorus	Municipal Sewage, Manure	Leads to excessive algae growth that reduces oxygen levels and harms aquatic life.
Toxic Pollutants[3]		
Arsenic	Industrial Processes	Causes damage to skin, damage to circulatory system, and cancer.
Benzene	Industrial Processes	Causes anemia, damage to immune system, and cancer.
Lead	Industrial Processes, Household Plumbing, Water Service Lines	Causes damage to nervous system, bones, muscles, and kidneys; developmental delays in children; hearing loss; and high blood pressure.
Mercury	Industrial Processes	Causes damage to kidneys and central nervous system, changes in vision and hearing, and birth defects.

[1] A water quality parameter that measures the wastewater's capacity to deplete dissolved oxygen in the receiving water, which is the river or lake into which the wastewater is discharged.

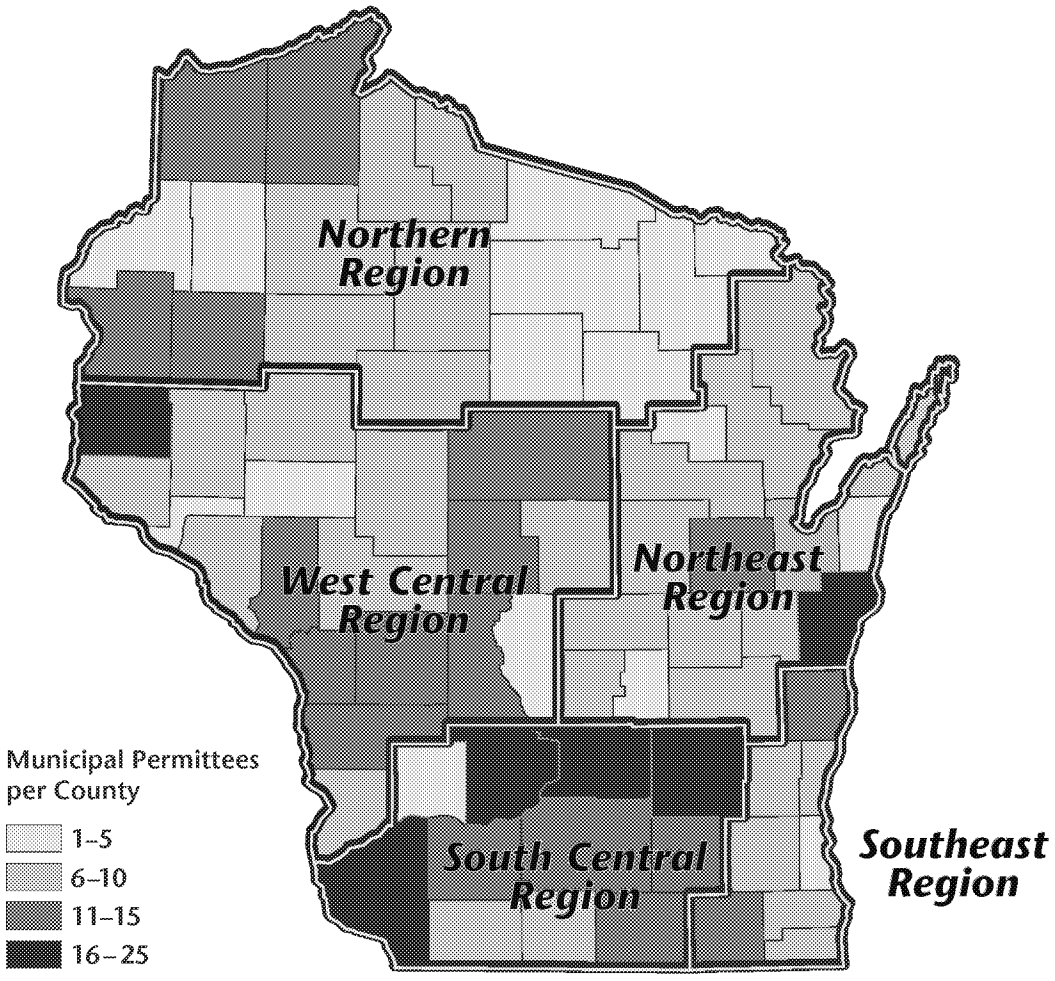
[2] A water quality parameter that measures the amount of particulates present in wastewater.

[3] DNR regulates approximately 65 types of toxic pollutants, which may be present in the wastewater discharged by some industrial and municipal permittees.

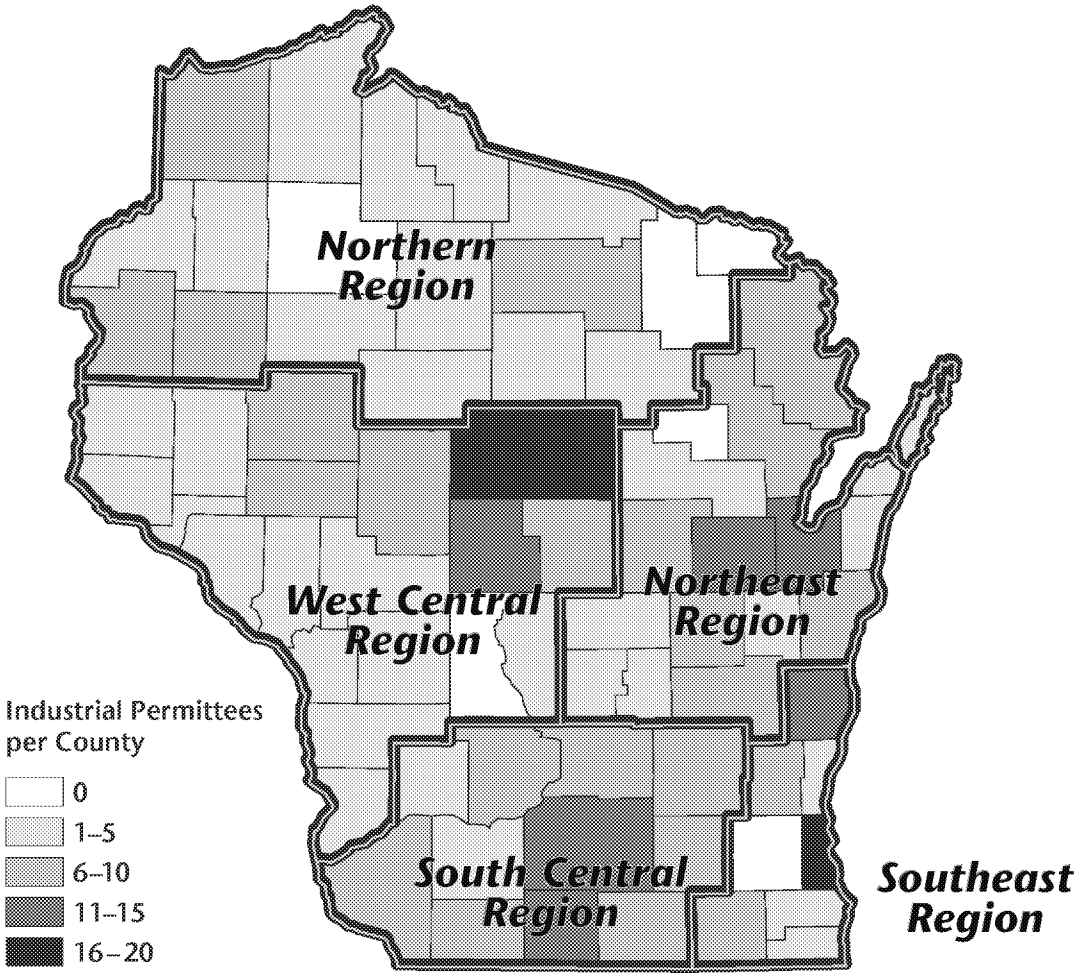
Appendix 2

Distribution of Municipal, Industrial, and CAFO Permittees

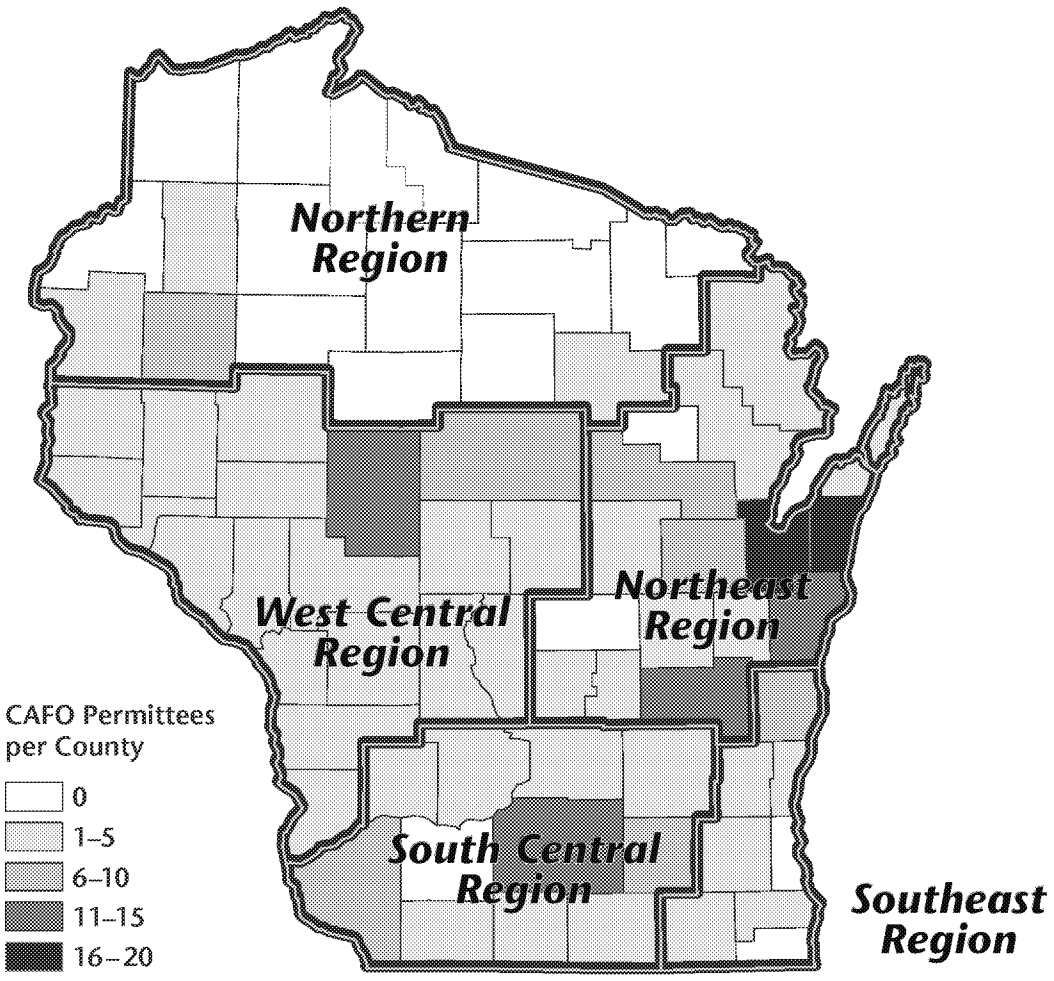
Municipal Permittees
December 2014



Industrial Permittees
December 2014



CAFO Permittees
December 2014



Appendix 3

DNR Goals for Improving Nutrient Management Planning and Implementation

	Status (as of January 2016)
Short-Term Goals	
Create daily manure application logs within nutrient management planning software.	Completed.
Require CAFO permittees to use existing nutrient management templates and forms.	DNR decided not to pursue this goal.
Develop more standard tools and templates for nutrient management plans.	Completed.
Create guidance for CAFO permittees applying manure on shallow bedrock soils.	DNR began efforts to address this goal by developing interim guidance.
Amend nutrient management planning software to reflect crop nutrient recommendations for critical soils.	Completed.
Create automatic spreading restriction flags and notices in nutrient management planning software.	Completed.
Create online options for file sharing, application submittal, and posting.	Completed.
Fill vacant DNR positions related to CAFO oversight.	DNR began efforts to fill vacant positions, and these efforts will remain ongoing as vacancies occur in the future.
Establish a central intake position for assigning DNR staff reviews of nutrient management plan submittals and tracking the approval process.	Completed.
Adopt standard operating procedures for nutrient management plan review.	Completed.
Revise nutrient management plan checklist.	Completed.
Require nutrient management plans to be completed using DNR's narrative template.	DNR began efforts to address this goal. These efforts are largely completed.
Revise guidance for manure application.	Not started.
Create an adaptive management option for addressing crop yield and nutrient recommendations.	Completed.

	Status (as of January 2016)
Long-Term Goals	
Create handheld application for interface with nutrient management planning software.	Not started.
Evaluate a reduced record-keeping approach for permittees.	Not started.
Develop computer programs for permittees to use that are compatible with existing nutrient management planning software.	DNR began efforts to address this goal.
Develop better guidance and tools for fields with multiple soils.	Completed.
Update DNR soils guidance for locations where the water table is less than 12 inches from the surface.	DNR began efforts to address this goal.
Coordinate the collection of data with county staff.	DNR began coordinating with county staff as part of an ongoing process.
Create a new map selection feature within nutrient management planning software.	Completed.
Revise nutrient management planning software to include standard Surface Water Quality Management Area language.	Completed.
Amend federal nutrient management standards for Wisconsin, which include requirements related to manure application.	DNR began efforts to address this goal, and revised standards were sent to the federal Department of Agriculture in November 2015.
Adopt amended nutrient application guidelines developed by the University of Wisconsin.	Completed.
Maintain no vacant positions for DNR's CAFO and non-point source staff.	DNR began efforts to address this goal.
Modify nutrient management planning software to make it a geographic information system-based program.	Completed.
Modify nutrient management planning software to improve the online review process.	Not started.
Evaluate the possible use of certified external reviewers to assess the nutrient management plans submitted by permittees, rather than continuing to use DNR staff exclusively.	DNR decided not to pursue this goal.
Offer the option of an expedited nutrient management plan review for a fee.	DNR decided not to pursue this goal.
Work with federal, state, and local agencies to agree to a single set of nutrient management plan requirements.	DNR decided not to pursue this goal.

	Status (as of January 2016)
Long-Term Goals *(continued)*	
Standardize data collection from permittees.	Not started.
Review the adoption of planning tools established by the Natural Resources Conservation Service.	Completed.
Modify nutrient management planning software to help demonstrate manure allocation over the five-year permit term.	Completed.
Identify alternatives to current nutrient management planning.	Completed. No were alternatives were identified.
Work with permittees to implement adaptive management related to crop yields and soil types.	DNR began efforts to address this goal.
Incorporate exact crop yield measurements into nutrient management planning software.	Not started.

Appendix 4

Issues EPA Identified with Wisconsin's Legal Authority for the WPDES Program

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
1	Section NR 205.07 (1) (v) and (2) (d), Wis. Adm. Code, pertaining to intentional treatment facility bypasses, should exclude overflows from collection systems, incorporate federal bypass limitations, and make bypass reporting requirements consistent with federal standards.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2013.
2	Wisconsin does not have a law or rule to implement federal regulations related to intake water pollutants, internal waste streams, measurement time periods for averaging water quality-based limits, and other related factors.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
3	Sections 283.53 (2) and 283.63, Wis. Stats., and ch. NR 203, Wis. Adm. Code, should provide a mechanism for terminating a permit, as well as allow an interested person to request a permit modification, revocation, reissuance, or termination.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
4	Wisconsin rules should prescribe the manner in which the State will exercise its statutory authority under s. 283.31 (6), Wis. Stats., for new facility location, design, construction, and capacity for cooling water intake structures.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
5	Section 227.52, Wis. Stats., should be made consistent with federal law by not restricting the classes of persons who may seek judicial review in state court for the final approval or denial of WPDES permits, such as limiting judicial reviews based on a person's financial interest or proximate property ownership.	Seek statutory changes.	DNR has not specified a completion date for this issue.
6	Section 283.17 (1) and (2), Wis. Stats., which provides for a 10-year exemption from stricter thermal water quality-based limits for facilities modified to meet the limits, is overly broad and should eliminate protection for facilities with alternative thermal limits.	Seek statutory changes.	Statutory changes became effective in April 2016.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
7	It is unclear whether DNR has the authority to incorporate the appropriate performance standards for new industrial effluent sources or federal effluent limitation guidelines into permits because not all current federal standards and guidelines are reflected in DNR's administrative rules.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
8	Section NR 106.145, Wis. Adm. Code, which addresses the establishment of water quality-based limits for mercury discharges, should be modified to comply with a February 2009 EPA decision that disapproved some aspects of the rule.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
9	Chapter NR 219, Wis. Adm. Code, that pertains to testing methods for point source discharges: ▪ should only allow the use of solid waste methods when approved by EPA; ▪ should be clarified to indicate when an EPA method became effective in the state; and ▪ should be clarified to indicate if it has been amended to include new EPA methods.	Incorporate changes into administrative rules.	Administrative rule changes became effective in June 2015.
10	DNR should amend its administrative rules to address EPA's concerns dating from November 2000 to ensure that the setting of water quality-based limits is based on federal procedures for Great Lakes states discharging into the Great Lakes Basin.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017. Although administrative rulemaking is moving forward, in a December 2012 letter, EPA concluded that this issue had been resolved through a clarification by the Wisconsin Attorney General.
11	Section 283.31 (3), Wis. Stats., and chs. NR 106 and 217, Wis. Adm. Code, pertaining to the establishment of water quality-based limits for receiving water, do not include sufficient language to implement federal regulations.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
12	Section 283.31 (3), Wis. Stats., specifying that permits can only be issued for discharges that meet federal regulations, should include a provision to ensure compliance with federal water quality requirements.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
13	Chapters NR 216 and 243, Wis. Adm. Code, should identify circumstances when best management practices must be included as conditions in permits.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
14	Section NR 106.117, Wis. Adm. Code, should require that interim water quality-based limits, standards, and conditions in reissued permits be at least as stringent as those in the previous permits.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
15	Neither Wisconsin's statutes nor DNR's administrative rules provide for the implementation of federal requirements for compliance schedules in permits, such as rules that require reports on progress toward meeting a final water quality-based limit or mandated interim requirements.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
16	DNR's administrative rules do not include more stringent requirements for its pretreatment plan.	Incorporate changes into administrative rules.	Administrative rule changes became effective in February 2014.
17	Section NR 106.10, Wis. Adm. Code, should include procedures for establishing water quality-based limits for noncontact cooling water.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
18	Section NR 205.07 (1) (g), Wis. Adm. Code, should require a signature on permits and reports that requests the signer to certify to the truth, accuracy, and completeness of the information being provided to DNR.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
19	Wisconsin should have a law or rule that gives DNR the authority to issue permits to concentrated aquatic animal production facilities.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
20	Wisconsin law should provide for adjustments to water quality-based limits when part of a discharger's wastewater is disposed of into wells, municipal facilities, or by land application.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
21	DNR's administrative rules should include descriptions of elements to be included in fact sheets, including when specific permit conditions are required.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
22	DNR's process for public notice of permit actions should include mailing a draft permit copy to certain other agencies, such as federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources, or using an acceptable equivalent method.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
27	Section 283.19 (2) (b), Wis. Stats., should define "new source" so that performance standards extend to new sources of discharges constructed between the date of promulgation of the Clean Water Act and the date of Wisconsin's promulgation of applicable rules, or Wisconsin should address the deficiency through rulemaking.	Seek statutory changes.	Statutory changes became effective in April 2016.
28	Sections NR 102.05 (3) (b), 106.06 (3) (b), 106.32 (2) (b), and 106.87 (1), Wis. Adm. Code, should provide that water quality-based limits are to be derived from and comply with receiving water quality standards under certain circumstances.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
29	Section NR 106.13, Wis. Adm. Code, pertaining to municipal facilities affected by liquids discharged from solid waste facilities should clarify whether DNR has mandatory or discretionary authority to establish a compliance schedule when water quality-based limits are exceeded. If the rule in question is mandatory, it should comply with federal regulations.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
30	Section NR 106.32 (2) (a), Wis. Adm. Code, should be revised so that water quality-based limit calculation procedures for ammonia continuous discharges require seven-day average and average monthly limit calculations for municipal facilities. Maximum daily and average monthly limits are to be used for other dischargers.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
31	Sections NR 106.32 (2) (b) 2. and (3) (a) 4. a. and 106.37 (2), Wis. Adm. Code, pertaining to water quality-based limit calculation procedures, should not allow additional time in compliance schedules for the gathering of data to justify a limit change or for demonstrations to justify a limit change.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
32	Section NR 106.07 (8), Wis. Adm. Code, pertaining to interim values of limits meant to protect aquatic and non-aquatic life until water quality criteria are established for a body of water, should only allow adding time to compliance schedules for discharges within the Great Lakes basin.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
33	DNR should clarify how it receives and manages discharge monitoring reports and data to evaluate compliance with certain water quality-based limits based on real-time conditions under s. NR 106.32 (3) (c) 2. and (4) (d), Wis. Adm. Code.	Provide written clarification to EPA.	DNR submitted written clarification to EPA in October 2011. In a December 2012 letter, EPA concluded that this issue had been resolved.
34	Section NR 106.32 (5) (c), Wis. Adm. Code, pertaining to water quality-based limit calculation procedures should require seven-day average limit calculations and average monthly limits for municipal facilities. Maximum daily and average monthly limits are to be used for other dischargers.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
35	Section NR 106.33 (2), Wis. Adm. Code, for setting seasonal water quality-based limits for ammonia should provide DNR with clear authority to set limits when there is a risk of exceeding limits in the receiving water.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
36	Section NR 106.34 (2), Wis. Adm. Code, for increasing ammonia water quality-based limits when certain older permits are reissued should conform to federal laws related to the application of anti-degradation procedures.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
37	Section NR 106.37 (1), Wis. Adm. Code, which establishes water quality-based limit calculation procedures, should not allow permittees to use a compliance schedule for meeting a variance from water quality standards.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
38	For permittees with stabilization ponds or lagoon systems, s. NR 106.38, Wis. Adm. Code, pertaining to the process for obtaining a variance from water quality-based limits for ammonia, should reference EPA requirements.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
39	Section NR 106.83 (2), Wis. Adm. Code, pertaining to the process for obtaining a variance from water quality-based limits for chloride should reference EPA requirements.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
40	Section NR 106.88 (1), Wis. Adm. Code, pertaining to water quality-based limit calculation procedures should mandate a limit for chloride whenever the discharge might negatively impact the quality of the receiving water.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
41	For limits based on acute criteria for continuous discharges, s. NR 106.88 (4), Wis. Adm. Code, should require seven-day average chloride limit calculations and average monthly chloride limits for municipal facilities. Maximum daily and average monthly limits are to be used for other discharges.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
42	Sections NR 106.87 (1) and 106.89 (2) and (3), Wis. Adm. Code, should reflect that suspension of limits on aggregate pollutants in a discharge are not necessary during a source reduction period for chloride whenever DNR can demonstrate limiting chloride is sufficient to maintain the quality of the receiving water.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
43	When a municipal facility cannot meet a water quality-based chloride limit due to indirect discharges from a public water system, s. NR 106.91, Wis. Adm. Code, should not allow DNR to set a different limit other than through a variance approved by EPA.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
44	The definition of "point source" in s. NR 205.03 (27) and (28), Wis. Adm. Code, inappropriately excludes landfill leachate collection systems, and the definition for "pollutant" inappropriately excludes "filter backwash."	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
45	DNR's administrative rules should reflect federal regulations pertaining to the effect of a permit by prohibiting its use as a property interest and prohibiting its use as an authorization to injure persons or property.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
46	DNR's administrative rules should include expedited procedures for obtaining a variance from water quality-based limits and for time extensions for filing variance requests.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
47	Section NR 205.07 (1) (g), Wis. Adm. Code, which allows non-corporate officers to sign a permit, should require submission of documentation that verifies the signatory's designated authority.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
48	DNR's administrative rules should include permit termination as a consequence of violating the permit requirements.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
49	Section NR 205.07 (1) (q) 1., Wis. Adm. Code, should require a permitted facility to provide notice to DNR of an alteration or addition to the facility that may be a new source of pollutant discharge.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
50	DNR's administrative rules should contain a provision for a notice of intent to terminate a WPDES permit.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
51	Section 283.49, Wis. Stats., and ch. NR 203, Wis. Adm. Code, should provide for any interested person to request a draft permit hearing rather than require a group of five or more individuals to request a hearing.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin law is consistent with federal regulations. Incorporate changes into DNR's administrative rules.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012, and administrative rule changes became effective in August 2015. In a December 2012 letter, EPA concluded that this issue had been resolved.
58	Section NR 205.03 (44), Wis. Adm. Code, should clarify whether its definition of "waters of the state" includes specific categories that are included in the federal definition for "waters of the United States."	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
59	Chapter NR 500, Wis. Adm. Code, should not have a WPDES permit exemption for the disposal of solid wastes, wet wastes, or semi-liquid wastes to a solid waste facility.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin law is consistent with federal regulations.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
60	The exemption for discharges from private alcohol fuel production systems onto the owner's property under s. 283.61, Wis. Stats., and s. NR 200.03 (3) (f), Wis. Adm. Code, should not apply to discharges that reach the waters of the United States.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
61	DNR does not have administrative rules that establish permit application requirements for several categories of dischargers, including existing manufacturing, mining, and aquatic animal production facilities.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: summer 2017.
62	DNR's administrative rules pertaining to actions it can take regarding the status of a permit should reflect federal regulations, including providing for "revocation and reissuance" of a permit rather than a "suspension."	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
63	DNR's rules should allow the State to assess multiple penalties for multiple instances of knowingly making false statements on applications, reports, or documents.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
64	DNR's administrative rules should provide for public participation in the enforcement process, including intervention in civil or administrative actions to obtain remedies for violations, and providing written responses to citizen complaints.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin law is consistent with federal regulations.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.
65	DNR's administrative rules should provide for the informational and procedural requirements for preparing a draft permit when the State determines it will proceed to permit issuance.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
66	DNR's administrative rules should require a fact sheet for every permitted facility or activity, including for discharges of less than 500,000 gallons per day.	Incorporate changes into administrative rules.	Administrative rule changes became effective in August 2015.
68	Section 283.13, Wis. Stats., which pertains to the dates when water quality-based limits should have been established, should reflect the dates specified in the Clean Water Act.	Request a reevaluation by EPA.	In a December 2012 letter, EPA concluded that, after additional review, this matter was not an issue needing to be addressed.
69	Section 283.81, Wis. Stats., which allows DNR to waive compliance with WPDES requirements to prevent an emergency threatening public health, safety, or welfare, is not consistent with federal program requirements.	Negotiate with EPA to retain Wisconsin's current legal authority.	DNR has not specified a completion date for this issue.
70	Section NR 106.05 (8), Wis. Adm. Code, is inconsistent with federal law because it allows a permittee to request alternative water quality-based limits when a test for a pollutant is insufficiently sensitive, even when discharges that result may negatively impact the quality of the receiving water.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
71	DNR should establish a "mixing zone" phase-out plan for existing discharges of chemicals that accumulate in plants and animals within the Great Lakes basin.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.

Issues Affecting Municipal, Industrial, and CAFO Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
72	Sections NR 106.06 (4) (c) 5., (8), and (10), and 102.05(3), Wis. Adm. Code, allow a discharge to be diluted by the receiving water, which may be inconsistent with the Clean Water Act if it allows for continued violations of water quality standards when the water is already impaired with the pollutant.	Provide written clarification to EPA.	Information was provided to EPA in October 2011. In a December 2012 letter, EPA concluded that, after additional review, this matter was not an issue needing to be addressed.
73	Sections NR 106.06 (4) (c) 5. and 10., Wis. Adm. Code, which mandate that DNR provide time for a discharger to complete mixing demonstrations, does not comply with federal law if this time is included in a permittee's compliance schedule.	Provide written clarification to EPA.	Information was provided to EPA in October 2011. In a December 2012 letter, EPA concluded that this issue had been resolved.
74	Sections NR 106.08 and 106.09, Wis. Adm. Code, which pertain to limitations of the aggregate pollutants in a discharge, should include procedures to determine the variability of the discharge whenever there are fewer than five samples and there is a risk to receiving water quality.	Incorporate changes into administrative rules.	Administrative rule promulgation is in progress. Estimated rule publication: winter 2017.
75	Wisconsin should clarify whether it has adequate permitting and enforcement authority pursuant to federal law given s. 227.10 (2m), Wis. Stats., which states that no agency may implement or enforce a standard, requirement, or threshold unless it is explicitly required or permitted by statute or by rule.	Obtain a legal opinion from Wisconsin's Attorney General to demonstrate that Wisconsin has adequate legal authority.	The Attorney General issued a legal opinion that was submitted to EPA in January 2012. In a December 2012 letter, EPA concluded that this issue had been resolved.

Issues Affecting Storm Water Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
23	Section 30.2022 (1), Wis. Stats., and s. NR 216.42 (5), Wis. Adm. Code, should include DNR's responsibility to regulate storm water discharges at Wisconsin Department of Transportation (DOT) construction sites.	Enact statutory changes. Incorporate changes into administrative rules.	Statutory changes became effective in April 2016. DNR has not specified a completion date for administrative rule changes.
24	Section 281.33, Wis. Stats., and s. NR 216.42 (4), (6) and (9), Wis. Adm. Code, should include DNR's responsibility to regulate storm water discharges at construction sites overseen by other state agencies, including construction sites for commercial buildings, one- and two-family dwellings, and those sites covered under other DNR environmental programs.	Enact statutory changes. Incorporate changes into administrative rules.	Statutory changes became effective in July 2013. No completion date has been specified for the administrative rule changes.
25	Section NR 216.415 (4) and (8) (b) 3., Wis. Adm. Code, should not grant authority to municipalities to administer construction site storm water general permits on DNR's behalf, preclude a landowner from seeking an individual permit, or exempt dischargers from filing a notice of intent when five acres or more of land will be disturbed.	Incorporate changes into administrative rules.	DNR has not specified a completion date for the administrative rule changes.
26	Section 30.2022, Wis. Stats., and s. NR 216.022, Wis. Adm. Code, should not rely on agreements between DNR and other state agencies, such as DOT, for the regulation of municipal separate storm water system dischargers.	Seek statutory changes. Incorporate changes into administrative rules.	DNR has not specified completion dates for either the statutory or administrative rule changes.
52	Section NR 216.21 (2) (b), Wis. Adm. Code, pertaining to the applicability of certain storm water permits, does not include access roads and rail lines, which are included in federal regulations.	Incorporate changes into administrative rules.	DNR has not specified a completion date for the administrative rule changes.
53	Section NR 216.21 (3) (e), Wis. Adm. Code, should require that facilities submit latitude and longitude information when certifying that industrial materials are protected by a storm resistant shelter to prevent exposure to storm water.	Require WPDES permittees to include facility location information on their annual report forms. Incorporate changes into administrative rules.	The annual report form was modified to request the required information in February 2014. DNR has not specified a completion date for the administrative rule changes.

Issues Affecting Storm Water Permittees

EPA Issue	Identified Deficiency	DNR Proposed Action	Date Completed or Estimated to be Completed (as of April 2016)
54	Section NR 216.002, Wis. Adm. Code, should require storm water discharge permits for discharges by construction sites smaller than one acre when the site is part of a common development plan.	No planned action.	In a December 2012 letter, EPA concluded that, after additional review, this matter was not an issue needing to be addressed.
55	Section NR 216.002 (11), Wis. Adm. Code, pertaining to the definition of illicit discharges to a municipal separate storm sewer system should be broadened to include all of the classes of activities found in federal regulations.	Incorporate changes into administrative rules.	DNR has not specified a completion date for the administrative rule changes.
56	Section NR 216.07 (8), Wis. Adm. Code, which requires annual reports from storm water permittees, should require permittees to give notice when they rely on another governmental entity to satisfy some of the permit obligations.	Request permittees to include information about reliance on another entity as part of their annual reports. Incorporate changes into administrative rules.	The annual report form was modified in February 2012 to request the required information. DNR has not specified a completion date for the administrative rule changes.
57	Section NR 216.07 (8), Wis. Adm. Code, which requires annual reports from storm water permittees, should require permittees to report proposed changes to storm water management programs that were established as a permit condition.	Request permittees to include information about proposed changes in storm water management programs as part of their annual reports. Incorporate changes into administrative rules.	The annual report form was modified in February 2012 to request the required information. DNR has not specified a completion date for the administrative rule changes.
67	DNR's administrative rules for small municipal separate storm water systems should require storm water management program evaluations and specify that records are available to the public.	Require permittees to include program evaluation information in their annual reports. Incorporate changes into administrative rules.	The annual separate storm water report form was modified in February 2012 to request the required information. DNR has not specified a completion date for the administrative rule changes.

Response ■

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
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Cathy Stepp, Secretary
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June 2, 2016

Mr Joe Chrisman
State Auditor
Legislative Audit Bureau
22 East Mifflin Street, Suite 500
Madison WI 53703

Subject: WPDES Permit Program Audit

Dear Mr. Chrisman:

Thank you for a comprehensive and insightful analysis of our municipal, industrial and agricultural wastewater permitting programs. We agree with your comments and recommendations and find them to be helpful and constructive. They will assist the department in our efforts to identify efficiencies, augment compliance and enhance water quality by issuing and managing practical and effective water discharge permits. We have recognized many of the issues you have identified, and have already, or are in the process of, establishing systems to address them. We very much appreciate the professionalism and collaborative approach taken by you and your staff through the audit process. Please accept our enclosed clarifying comments in the same collaborative framework as we work together to improve our processes to protect and improve water quality in Wisconsin.

Expenditures and Staffing

We agree with the number of hours associated with the Concentrated Animal Feeding operations (CAFO) program but would like to point out that the number of hours currently being attributed to program implementation exceeds the number of staff actually allocated to the program. As we looked through expenditures associated with the staffing investment, the increase is approximately 1.1% per year. To provide a little context, the CAFO program includes Central Office staff and Regional staff positions. There are currently 10.5 regional positions that handle permitting and compliance activity; 6.0 central office positions that assist with review and approval of construction plans, and nutrient management plans; and 0.5 position that helps with compliance and enforcement. There are supporting staff such as the managers, IT assistance, permit application intake LTEs, and legal and enforcement staff in other programs that are critical to full implementation.

Four of the six recommendations included in the LAB report for CAFOs involve the work conducted by the 10.5 regional staff, including annual report review, facility inspections, manure hauling audits and compliance activities. In order to accomplish this work, the department has calculated that a CAFO permit to staff ratio of 20 is a level where all the required work can be accomplished. With the

current number of permits issued and new applications in house, the permit to regional staff ratio is now 31.

Permitting Process

Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on the status of its efforts to make CAFO application forms, design plans, and nutrient management plans easily accessible through its website.

CAFO Application Process: In regards to the recommendation to make CAFO application materials available through a website, the department agrees and has already begun the necessary development steps to achieve this goal. The plans and specifications and substantial modifications to nutrient management plan components of the CAFO application process are already available electronically through the web. Our goal is to continue to expand the balance of the application process materials through the same web site by the end of 2016, depending on available resources.

Permit Backlog

Recommendation

We recommend the Department of Natural Resources:

- *develop and implement a plan to further reduce the WPDES permit backlog; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its effort, including the status of any permits backlogged for more than one year.*

Permit Backlog: While the Department acknowledges the current permit backlog for municipal and industrial permits exceeds the 10% backlog rate considered to be the national goal set by EPA, it is important to understand the reasons for the backlog. The backlog increased due to a number of factors. In 2010, administrative rule changes required the department to incorporate new regulations into all WPDES permits and also, during 2010-2011, the Bureau of Water Quality experienced the largest vacancy rate ever in the history of the program. Retirements that year represented nearly 30% of the full-time staff in the Bureau. As part of its plan to decrease the backlog, the Department has worked to fill vacancies to replace staff; however, the complexity of the program is such that newly hired staff require several years to become proficient permit drafters. The Department has already developed a strategy to address the backlog including conducting a Lean Six Sigma project for the permit program. This Lean project identified 84 recommendations to improve the permit processing timeline and allow the Department to reach the backlog goal. Most of these recommendations have been implemented and the backlog for municipal and industrial permits has been reduced from 35.4% in April 2012, to 24 % as of April, 2016. The Department continues to focus on filling staff vacancies to continue to reduce the backlog and we expect to make substantial progress toward reducing the backlog over the next year.

Municipal and Industrial Inspections

Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in conducting inspections of municipal and industrial permittees based on its established goals;*
- *develop and implement a plan to improve its performance in meeting its inspection goals for municipal and industrial permittees; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its progress in developing and implementing the plan.*

CAFO Inspections

Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in conducting inspections of CAFO permittees based on its established goals;*
- *develop and implement a plan to improve its performance in meeting its inspection goals for CAFO permittees; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016. on its progress in developing and implementing the plan.*

Inspections: The permitting program does assess its performance in inspecting facilities for municipal, industrial and CAFO facilities with respect to the inspection goals set by EPA. The goals we use are not the goals represented by the guidance document referenced in the report. (Note: This guidance will be revised to reflect the actual practice of following EPA national goals as discussed below.) The WDNR annually commits to inspection goals by submitting a Compliance Monitoring Strategy (CMS) report reflecting the national goals set by the EPA. The Department submits both mid-year CMS inspection numbers and end-of – year CMS inspections numbers annually to the EPA. The goals established in the CMS for municipal, industrial and CAFO facility inspections are one inspection for all majors every two years and one inspection for minors and CAFOs every 5 years. Additionally, the CMS describes national goals and requirements for pre-treatment program audits and inspections, biosolids inspections, CSO inspections, and industrial and MS4 storm water inspections.

All of these metrics are evaluated and reported semi-annually to the Region 5 EPA. The goals set forth for municipal and industrial inspection numbers in the CMS and for CAFOs are consistently met. It should also be noted that the number of inspections for CAFOs has more than doubled over the audit period. Finally we appreciate the audit report finding that pointed out that the department performs more frequent inspections of CAFOs with previous violations – an example of how staff time is prioritized to focus our inspection efforts.

Records and Annual Reports

Recommendation

We recommend the Department of Natural Resources require its staff to:

- *record in the WPDES database the dates that annual reports submitted by CAFO permittees were received; and*
- *thoroughly review the annual reports submitted by CAFO permittees.*

Records: Several recommendations referred to electronic recording of records – specifically CAFO annual reports, records of inspections, determinations of substantial compliance and notices of noncompliance. The department agrees that improved record keeping in these areas is necessary, and will be developing efficient systems and training to accomplish this as resources allow. However, we would like to note that we believe these activities are currently being completed, but that documentation of department actions should be improved.

Review of CAFO Annual Reports: The department agrees that annual reports from CAFOs can be used more effectively as a tool to determine permit compliance, and will develop a process to increase effectiveness and efficiency in its review of these documents as resources allow.

Determining Substantial Compliance

Recommendation

We recommend the Department of Natural Resources develop a plan to:

- *ensure that records of all inspections and determinations of substantial compliance are entered into the WPDES database;*
- *ensure that all WPDES permittees are inspected within 12 months before expiration of their current permits;*
- *ensure that WPDES permittees are determined to be in substantial compliance with the terms of their permits before DNR reissues the permits, as required by statutes; and*
- *report to the Joint Legislative Audit Committee on the status of these efforts by November 1, 2016.*

Substantial Compliance: The Department looks at site and situation specific factors when deciding whether or not substantial compliance has been met and whether a permit should be reissued. Where warranted, permit reissuances are held in abeyance pending permittee action to address noncompliance issues. This is reflected in the Department's quarterly permit backlog tracking reports, with permittees not in substantial compliance with their permit. For example, this accounts for only 1-2% of backlogged CAFO permits. However, a lack of a written substantial compliance determination does not mean that such a determination was not made. The Department acknowledges that there have been historical issues with formally documenting inspections and determinations of substantial compliance. In more recent years, the Department has taken steps to improve documentation of these events, including the development of standard operating procedures, and a greater focus on training to educate and assist staff on compliance related issues.

Enforcement Efforts

Recommendation

We recommend the Department of Natural Resources:

- *regularly assess its performance in issuing notices of violation for municipal and industrial permittees based on its established policies;*
- *develop a strategy to increase the consistency between its enforcement policies and its actual practice of issuing notices of violation for municipal and industrial permittees;*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its efforts.*

NONs and NOVs: The Department agrees that consistency in the documentation processes for enforcement actions could be improved by utilizing a central database. The Water Quality Bureau is addressing these inconsistencies in documentation and feels that the report would have more accurately reflected the enforcement activities if all Notices of Noncompliance (NON) and less formal enforcement actions were recorded and stored in a single dataset.

The report references and draws conclusions on the expected number of Notices of Violation (NOV) based on internal program guidance. This document provides factors for our staff to consider when determining the initial response to noncompliance. The Department most often starts with the most appropriate enforcement approach (informal discussion or NON) and only escalates to a more aggressive approach (NOV, enforcement conference, referral) if a more collaborative approach does not result in compliance. While the audit report acknowledged that there were at least 838 NONs issued during the audit period, it was not able to provide a full description or assessment of the results of our enforcement actions given the lack of a centralized database to provide the necessary documentation. Compliance staff are granted broad enforcement discretion to use their professional judgment, and most often begin addressing an issue through informal conversations or working with facilities through NONs to achieve compliance. The lower than expected number of NOVs is indicative of the fact that our less formal approaches result in attaining compliance in most of the cases, so the issue was addressed without the use of an NOV. It is important to emphasize that the audit findings do not mean the situations evaluated were not addressed.

We also wish to acknowledge the data shown on table 13, which indicates the increase in CAFO enforcement actions over the audit period.

Additionally, it was not captured within the scope of the audit but the Department has spent substantial time in the recent past pursuing enforcement against septage companies. For example, in 2014, more aggressive enforcement activities such as NOVs, enforcement conferences and DOJ referrals were pursued against 25 separate septage companies. The focus on this enforcement activity was in response to citizen complaints and the increased potential negative health impacts of improperly disposing of untreated septic waste.

Regional Variation

Recommendation

We recommend the Department of Natural Resources:

- *determine the extent to which differences in the percentage of enforcement actions for CAFO permittees between the Northeast Region and its other regions can be explained by efforts to address the complaints that are received;*

- *review a sample of enforcement actions taken for CAFO permittees statewide and, where needed, provide training to its staff to increase the consistency of its enforcement actions throughout the state; and*
- *report to the Joint Legislative Audit Committee by November 1, 2016, on its efforts*

Regional Variation: The Department agrees with the audit findings regarding the need to increase consistency of implementation of programs around the state and has already begun to take steps to address this concern. In July of 2015, the department modified its reporting structure to a line organization in which all field staff and field supervisors around the state within a program now report to the program director within central office rather than regional supervisors. One of the main reasons for implementing this change was to further increase consistency in permitting, inspections, and enforcement around the state. This organizational change also increased the department's ability to allocate work among staff located around the state as well as reallocate resources as necessary.

Future Considerations

Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on:

- *the status of its request to EPA for the statewide multi-discharger variance for phosphorus limits;*
- *its progress in addressing the 38 issues identified in EPA's July 2011 letter that were not addressed as of April 2016: and*
- *any actions EPA has taken as a result of the citizen petition.*

Multi Discharger Variance: The department submitted the request for a multi-discharger variance to EPA on March 31, 2016. EPA has not yet responded to the request, but during recent inquiries to EPA, they indicated that the delay is due to the complexity of the issue.

Issues Identified by EPA: On July 18, 2011, DNR received a letter from EPA identifying 75 issues and potential inconsistencies with Wisconsin's authority to administer the WPDES permit program. DNR has worked to address most issues through rule changes, dividing related issues into eight separate rule packages. DNR has adopted six of eight regulatory packages that account for many issues identified by EPA.

Specifically, the Department has completely resolved 38 issues through rule making or other methods. An additional 21 issues addressed through rule changes were adopted by the Natural Resources Board in January 2016. These two rule packages are currently at the legislature awaiting approval. Administrative rule changes addressing 10 additional items are drafted and going out for solicitation of economic impact information. The solutions to address the remaining 6 issues out of the 75 are either being developed or will require legislative action.

Of the eleven issues affecting the storm water program, three have been resolved through statutory changes, six have been addressed by changes to a reporting form or the permit and one was identified by EPA as no longer being an issue. The final issue will be addressed by an administrative rule revision scheduled to begin in later in 2016.

Addressing Groundwater Contamination in Kewaunee County

Recommendation

We recommend the Department of Natural Resources report to the Joint Legislative Audit Committee by November 1, 2016, on:

- *the status of its efforts to address groundwater contamination in Kewaunee County and on any additional information that has become available concerning the likely source or sources of the contamination; and*
- *the extent to which it plans to implement the recommendations made by each of the five workgroups.*

Kewaunee County: Thank you for a thorough discussion of our efforts in regard to groundwater concerns in Kewaunee County. These same concerns exist in other areas of the state with similar geology – shallow soils overlaying fractured bedrock.

Three of the five workgroups have now completed their work. The Communications Work Group is now compiling a final report of the recommendations which is expected by the end of the week of June 6. However, the department has already begun work on several of the recommendations as follows:

- Increase audits of nutrient management plan implementation – Department staff began to address this recommendation as early as last fall, and also this spring, when field audits of manure spreading were increased. The department has also reallocated resources to be able to fill all vacancies in the CAFO program. The goal is to work with the Kewaunee County CAFOs on the findings of the audits.

- Although the recommendation was to fill an environmental warden position in Kewaunee County, the department is in the process of hiring an environmental enforcement specialist, which we have determined to be a more effective position to address the groundwater concerns.

- A number of recommendations focused on the need to identify sensitive area conditions and to implement additional best management practices in those areas, such as restricting or reducing manure spreading rates and providing setbacks for conduits to groundwater. The department has met with agricultural producers to inform and recommend voluntary implementation and has already begun the scope statement process to revise administrative codes to formally adopt these additional practices as performance standards and into appropriate regulations.

- Several recommendations involved internal processes such as how the department investigates well contamination events, addresses permit violations and communicates with counties and the public regarding these occurrences. The department has established several teams of staff to address these ideas and anticipates further internal guidance development to improve its processes. The department has already established a unique web page to provide information to the public on these issues.

The fifth work group, Alternative Practices, is being formed, with a first meeting scheduled in late June. This work group will continue to review new or alternative technology and best management practices, serve as a continued communication forum and provide additional suggestions into the future. In addition, the Communications Work Group will continue to meet as necessary to provide input not only on what, how and

to whom information needs to be made available, but also a review on how recommendation implementation is proceeding.

It should also be noted that while many of the work group recommendations were directed at improvements the department can champion, other recommendations were directed at EPA, local government, agricultural producers and the public. The department will ensure these are communicated to the appropriate individuals and will coordinate implementation. For example, department staff have already met with seven northeastern county land conservation officials (counties with similar Karst geology) to review the recommendations and begin a dialog to coordinate implementation with them.

Once again, thank you for a comprehensive and, professional audit of our Wisconsin Pollution Discharge Elimination System permitting programs. We truly do appreciate your comments and recommendations and look forward to using this report, that is largely consistent with our ongoing efforts, to improve the effectiveness and efficiency of our water permitting programs.

Sincerely,

Cathy Stepp
Secretary

Addressing Kewaunee County water quality

Cathy Stepp, Wisconsin Department of Natural Resources secretary *4:23 p.m. CDT May 7, 2016*

(Photo: File/USA TODAY NETWORK-Wisconsin)

The Wisconsin Department of Natural Resources has been working for more than a year with multiple stakeholder groups to address water quality issues in and around Kewaunee County. That work is not over, but based on our discussions so far, we have been able to take action on several fronts.

The department believes in making decisions and finding solutions based on sound science, and so, we commissioned scientific research to gather data about the quality of wells in Kewaunee County. The two-year study of 323 private wells in the county — conducted by independent researchers led by the University of Wisconsin-Oshkosh Department of Geology and the United States Department of Agriculture's Research Service — is intended to provide a more precise estimate of the countywide well status and ensure wells of different depths are equally represented. It will give DNR and other agencies scientific data upon which to base their action plans moving forward.

Preliminary data from the research show the nitrate levels in those tested Kewaunee County wells is consistent with statewide averages in agricultural areas and areas without sewers. Five wells did test positive for E. coli. Of course, all that is of little comfort if you are one of the individuals whose well may be tainted, but there may be some assistance we can provide. If you haven't already received assistance and have a well that tested positive for E. coli, we encourage you to contact the DNR by emailing us at DNRSecretary@wisconsin.gov (mailto:DNRSecretary@wisconsin.gov).

In collaboration with the U.S. Environmental Protection Agency and Kewaunee County officials, DNR facilitated the formation of four work groups — composed of state, federal and local representatives — to make recommendations on various aspects of water quality issues. We have worked side-by-side with numerous agencies and environmental groups, including the EPA.

The efforts of the many groups and individuals involved in this endeavor are beginning to pay dividends. For example, the DNR in recent weeks has:

• Initiated the hiring of an environmental enforcement specialist that will focus on water quality issues in Kewaunee and adjoining counties.

• Redeployed resources to allow us to hire three vacant staff positions to handle the permitting of Concentrated Animal Feeding Operations.

• Met with livestock owners in Kewaunee County to review the work group recommendations and solicit their buy-in on best management practices going forward.

• Established a management and staff infrastructure to coordinate our review and implementation of not only the work group recommendations, but other potential solutions that were identified.

• Planned a more robust approach to the auditing of manure spreading to help ensure that approved nutrient management plans are properly implemented.

In the coming weeks and months, the DNR will be reviewing the recommendations of the work groups to develop appropriate plans for implementation, including administrative rule revisions, if necessary. Once the review is complete and implementation steps have been developed, we will be holding a public informational meeting in Kewaunee County. Again, the work is not over, we will continue to work directly with the stakeholders of Kewaunee and adjacent counties on the continued development of ideas and recommendations for additional best management practices.

Public education is an important part of this process, and we will be focusing on our educational and outreach efforts to equip consumers with the best possible information about their wells and overall drinking water quality. You can find a wealth of information about wells, well testing and water quality on a new DNR website page at http://dnr.wi.gov/topic/DrinkingWater/Quality.html (http://dnr.wi.gov/topic/DrinkingWater/Quality.html).

The public should also know we will continue to use the full extent of our authority to pursue violations that may happen on the ground.

I am optimistic that with the better scientific data in which we have invested — and with the cooperation of the EPA, the Natural Resources Board, the Department of Agriculture, Trade and Consumer Protection, the University of Wisconsin-Extension and others — we will now be able to move forward with data-driven information for policy makers to rely upon. Sound science takes some time, but this administration has invested the resources to actually seek to solve the problem with ground water quality in this region.

Our intention and desire is that the DNR — along with other agencies and stakeholder groups — can continue to work and coordinate together as we address water quality issues, not only in and around Kewaunee County, but across the entire state. That's our responsibility, and we take it very seriously.

Cathy Stepp is secretary of the Department of Natural Resources.

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Monday June 20, 2016

"Progress through Education & Reason"

Hansen, Genrich Disappointed In Delayed DNR Response to Groundwater Crisis

State & Local

Written by GBP Staff

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Department to enact aspects of Democrats' Groundwater Proposal as Administrative Rules over a year after environmental groups petitioned the U.S. Environmental Protection Agency to act in response to Clean Water Act Violations.

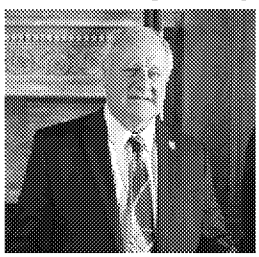
GREEN BAY - Representative **Eric Genrich** (D-Green Bay) and Senator **Dave Hansen** (D-Green Bay) responded today to the announcement that the Department of Natural Resources (DNR) intends to enact some of the provisions put forth in legislation they introduced in November of last year as administrative rules.

Hansen and Genrich's bill, Senate Bill 469 (SB 469)/ Assembly Bill 637 (AB 637) sought to confront the spreading of high volumes of manure in karst areas, which has led to widespread well contamination in several communities in Northeast Wisconsin. SB 469/AB 637 would have required that the Department of Natural Resources (DNR) identify karst-susceptible areas and develop regulations to establish acceptable manure spreading practices in those areas.

"We welcome any constructive action to address the issue of water quality, but it is disappointing that it took Governor Walker and the DNR so long to act on behalf of the thousands of citizens affected by this crisis," **said Genrich**.

The DNR's intention to enact some of the policies contained in the bill as administrative rules was unveiled Thursday. The announcement comes over a year after environmental groups petitioned the U.S. Environmental Protection Agency (EPA) to act in response to Clean Water Act Violations.

"Being able to drink clean water is a basic right that has been denied to thousands of residents and families in Northeast Wisconsin by politicians in Madison who are more concerned with protecting the interests of large corporations than making sure our children have safe water to drink," **said Hansen**. "While it is nice to see that the Governor and DNR are finally adopting some of the protections included in our bill, much more needs to be done to restore the quality of the groundwater and the trust of those whose lives have been affected."



Kewaunee County Groundwater Study

Results for microbial analysis as of May 4, 2016

Microbial analyses

Samples collected 4/18/16 - 4/22/16. Analysis is ongoing.

30 samples collected, 10 in each depth to bedrock strata (<5 ft, 5 - 20 ft, and >20 ft to bedrock)

Analyses by quantitative polymerase chain reaction (qPCR)

Completed	Ongoing
Human-specific targets	***Human-specific targets***
Adenovirus groups C,D,F	Human *Bacteroides*
Adenovirus group A	
Adenovirus group B	***Bovine-specific targets***
Enterovirus	Bovine enterovirus
GI Norovirus	Bovine viral diarrheal virus type 1
GII Norovirus	Bovine viral diarrheal virus type 2
Human polyomavirus	Coronavirus
	Bovine adenovirus
Bovine-specific targets	*Bacteroidales* -like cow M2
Bacteroidales -like cow M3	
Bovine polyomavirus	***Non-specific targets***
Bovine *Bacteroides*	*Cryptosporidium parvum*
	Giardia lamblia
Non-specific targets	Rotavirus group A (*VP1* gene)
Campylobacter	
EHEC (*eae* gene)	
EHEC (*stx1* gene)	
EHEC (*stx2* gene)	
Rotavirus group A (*NSP3* gene)	
Salmonella (*InvA* gene)	
Salmonella (*ttr* gene)	
Pepper mild mottle virus	

EHEC, enterohemorrhagic *E. coli*

Summary of results

Number of positive wells by microbial target and depth to bedrock. Targets not listed were not detected in any wells.

Microbial target	Depth to bedrock (ft)			
	All (n = 30)	<5 (n = 10)	5-20 (n = 10)	>20 (n = 10)
Bovine-specific targets				
Bovine polyomavirus	3	2	1	0
Bovine *Bacteroides*	3	1	2	0
Non-specific targets				
Rotavirus group A (*NSP3* gene)	7	3	3	1
Salmonella (*InvA* gene)	3	2	1	0
Salmonella (*ttr* gene)	5	2	2	1
Pepper mild mottle virus	5	3	2	0
Total positive wells[a]	14	5	7	2

[a]This value is less than the sum of individual microbial targets because some wells were positive for more than one target

Results by well

Results for microbial targets analyzed by qPCR (samples collected April 2016) with data for total coliform, *E. coli* , and nitrate (samples collected November 2016). Only listed targets were detected; wells were negative for all other targets analyzed as of 5/4/2016.

					Bovine-specific targets		Non-specific targets			
Sample ID	Depth to bedrock ft	Total coliform MPN[a]	*E. Coli* MPN	Nitrate ppm $N\text{-}NO_3^-$	Bovine polyomavirus	Bovine *Bacteroides*	Rotavirus group A (*NSP3* gene)	*Salmonella* (*InvA* gene)	*Salmonella* (*ttr* gene)	Pepper mild mottle virus
					genomic copies L^{-1}					
103327	>20	1	<1	ND	0	0	0	0	0	0
103328	>20	4.1	<1	ND	0	0	0	0	0	0
103329	>20	5.2	<1	ND	0	0	0	0	1.62	0
103330	<5	66.3	<1	5.1	0	0	0	0	0	0
103331	<5	<1	<1	12.4	0	0	0	0	0	0
103332	>20	4.1	<1	ND	0	0	0	0	0	0
103333	<5	<1	<1	18.2	0	0	0	5.92	2.99	0
103334	<5	101.7	<1	0.23	0	0	0	0	0	0
103335	<5	<1	<1	12	0	0	< 0.01[b]	12.88	20.25	0
103336	5-20	1	<1	3.9	0	0	0	0	0	0
103337	5-20	3.1	<1	29.7	0	0	0	0	0	0
103338	<5	1	<1	2.3	0	0	0	0	0	2.32
103339	<5	69.1	<1	6.2	3.42	1.31	1.51	0	0	44.63
103340	5-20	<1	<1	26.2	0	1.65	0	0	0	0
103341	5-20	4.1	<1	1.6	0	4.20	0	0.03	9.71	0
103342	<5	2	<1	NA	0	0	0	0	0	0
103343	<5	2	<1	1.4	0	0	0	0	0	0
103344	>20	1	<1	ND	0	0	0	0	0	0
103345	5-20	4.1	<1	ND	0	0	0	0	2.52	0
103346	5-20	9.7	<1	2.7	0	0	0	0	0	2.09
103347	5-20	2	<1	8.6	0	0	< 0.01[b]	0	0	0
103348	5-20	<1	<1	11.2	0	0	0	0	0	0
103349	>20	<1	<1	13.5	0	0	< 0.01[b]	0	0	0
103350	>20	<1	<1	13.5	0	0	0	0	0	0
103351	>20	31.7	<1	1.7	0	0	0	0	0	0
103352	>20	<1	<1	18.2	0	0	0	0	0	0
103353	5-20	1	<1	10.2	3.00	0	2.64	0	0	3.17
103354	<5	<1	<1	13.4	0.80	0	3.14	0	0	2.55
103355	5-20	7.2	<1	8	0	0	0.43	0	0	0
103356	>20	3.1	<1	ND	0	0	0	0	0	0

[a]Samples with MPN values of "<1" are considered negative. [b]Samples were positive for this microbial target at concentrations below precise quantification. ND, not detected; NA, not analyzed

Negative controls

	Negative control		
Target	Extraction	qPCR	Reverse transcription
Adenovirus groups C,D,F	Negative	Negative	NA
Adenovirus group A	Negative	Negative	NA
Adenovirus group B	Negative	Negative	NA
Enterovirus	Negative	Negative	Negative
GI Norovirus	Negative	Negative	Negative
GII Norovirus	Negative	Negative	Negative
Campylobacter	Negative	Negative	NA
EHEC (*eae* gene)	Negative	Negative	NA
EHEC (*stx1* gene)	Negative	Negative	NA
EHEC (*stx2* gene)	Negative	Negative	NA
Human polyomavirus	Negative	Negative	NA
Bacteroidales -like cow M3	Negative	Negative	NA
Bovine polyomavirus	Negative	Negative	NA
Bovine *Bacteroides*	Negative	Negative	NA
Rotavirus group A (*NSP3* gene)	Negative	Negative	Negative
Salmonella (*InvA* gene)	Negative	Negative	NA
Salmonella (*ttr* gene)	Negative	Negative	NA
Pepper mild mottle virus	Negative	Negative	Negative

NA, Not Applicable: Target does not require reverse transcription

Negative controls

Extraction : backflush solution with 1% beef extract that is carried through the entire process as a sample (secondary concentration, extraction, reverse transcription, and qPCR.

qPCR : nuclease-free water added at the template addition step prior to qPCR.

Reverse transcription : nuclease-free water added at the template addition step prior to reverse transcription and subsequently analyzed using qPCR.

Reports of contaminated ground and surface waters escalate

Karen Ebert Yancey, USA TODAY NETWORK-Wisconsin *11:05 p.m. CDT June 12, 2016*

(Photo: alexdans, Getty Images/iStockphoto)

Ground and surface water contamination problems continue to escalate in Kewaunee County, Groundwater Task Force members learned at their meeting Wednesday.

In a report by Kewaunee County Public Health Director Cindy Kinnard, the task force was told that of 108 wells tested within a half-mile radius of 11 wells that were found to be contaminated with salmonella and rotavirus last month, an additional six wells were found to be contaminated with coliform bacteria and one well was contaminated with E. coli.

Finding the well contaminated with E. coli then required that the Public Health Department send out 68 more letters to residents with private wells within a half-mile of that well, Kinnard said.

In addition, Davina Bonness, county conservationist, told the task force that the 108 well owners who requested tests, including two Casco schools, did not have their wells tested for presence of salmonella and rotavirus. They were only tested for coliform bacteria and E. coli, which were less expensive tests, she said.

Bonness said that the decision about what tests to use for the wells was made by the state Department of Natural Resources.

"We did not specifically say what what kinds of tests," James R. Dick, a spokesperson for the DNR, said after the meeting. "When you do standard well tests, E. coli can be an indicator that there could be something else in the well."

He said that the DNR was not aware that two of the property owners that received letters recommending testing were schools.

"All of this news has to be affecting the EPA (Environmental Protection Agency)," said Dick Swanson, task force member. "They must be thinking what can we do to help these people."

Citizens groups petitioned the EPA to come to Kewaunee County in 2015 because of groundwater pollution. Since then, the EPA has asked the DNR to take the lead in finding solutions.

Lee Luft said that some residents who received letters had elected to test their wells privately rather than deal with government agencies.

Bonness said another round of voluntary testing of 137 wells throughout the county was sent to Stevens Point this week and preliminary results should be ready by Friday.

The results of DNR work group meetings that provided recommendations to address groundwater contamination caused by manure spreading and other pollution sources, will be presented to the County Board at its June 21 meeting, said Lee Luft, task force chairman.

In addition, the EPA and DNR are holding a public meeting at 6 p.m. June 23 at the Kewaunee County Expo Center in Luxemburg to obtain public input into the recommendations. The DNR work group recommendations cover short-term solutions to obtain clean water for citizens living with unsafe wells, best management practices for agriculture, and compliance and enforcement issues.

Task force member Andy Wallander said it was important that these recommendations and best management practices not be voluntary.

"We have been using voluntary regulations since 1972 and they have not served us well," he said. "We are misleading the public by saying that all of this will be enforced."

Audit

The Groundwater Task Force also discussed a recently released Wisconsin Legislative Audit Bureau report that found the DNR was not enforcing its own policies for regulating concentrated animal feeding operations (CAFOs), which are blamed for much of the ground and surface water pollution in Kewaunee County.

The report said that only 36 of the approximately 1,900 reports required to be submitted by CAFO permittees had been electronically recorded as being received.

The report also said that before the DNR reissues a CAFO permit, it is required by statute to determine that the CAFO is in substantial compliance with existing regulations. However, between 2006 and 2014, the DNR did not ensure compliance for 17 CAFO permittees.

The extent to which DNR took at least one enforcement action for CAFO permits varied among its five regions and ranged form 17.6 percent to 56.8 percent for CAFO permittees, the report said.

Three pages of the Legislative Report Summary were dedicated to issues in Kewaunee County.

"The audit is cause for alarm," Luft said.

County Supervisor Mary Ellen Dobbins said that in spite of many DNR statements that the county would receive a warden or enforcement specialist, the county still does not have either.

"We have been waiting for this person for years and years," she said.

The groundwater task force also gave unanimous approval for Luft to write a resolution to ask to have a new DNR study completed of the East Twin River and unnamed tributary near the Agropur plant.

"There has been a 250 percent increase in chloride discharges from the plant," said Luft, noting that the DNR had approved this increase when it recently reissued its permit to allow Agropur to discharge into the tributary.

Phoenix

Luft also told the task force that news on Project Phoenix, which was being funded by a Wisconsin Public Service Commission grant, was "not good."

The project study, which was being completed by Roach and Associates, to determine if manure from three CAFOs in the county could be brought to a central location for treatment and use of methane gas, had been ruled "unacceptable" by the commission at a recent meeting, Luft said..

The county had now hired a new firm, Dynamics Inc. to complete the study by the July deadline, but Roach has billed the county $25,000 for its work, Luft said.

"This was not supposed to cost the county anything," said Luft, noting that it was former County Chairman Ron Heuer and Supervisor John Pagel who had recommended Roach and Associates. He said that the bill was referred to the Finance Committee.

West Kewaunee resident Sue Wieser told the task force that since the DNR had told county residents it was going to find solutions to the county's ground and surface water pollution problems last August, it had approved Agropur's permit to discharge more chloride into the river, approved an additional CAFO permit, approved the county's first manure spraying permit, acknowledged that all three rivers in the county were on the EPAs impaired list, and announced that wells are now contaminated with salmonella and rotavirus.

"It's the same old, same old," she said.

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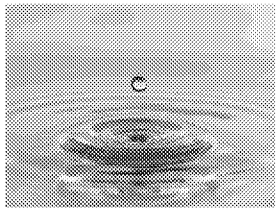
Two schools receive letters warning of well contamination

Karen Ebert Yancey, USA TODAY NETWORK-Wisconsin *10:47 p.m. CDT May 5, 2016*



(Photo: Fuse, Getty Images/Fuse)

Two Kewaunee County schools received letters from the Kewaunee County Public Health Department warning that a neighboring property owner's well within a half-mile of their schools had tested positive for salmonella and rotavirus, Cynthia Kinnard, county public health nurse said Thursday.

Luxemburg-Casco Middle School and Holy Trinity School both in Casco received letters from the department suggesting that they test their wells for presence of the contaminants, which are typically associated with animal or human feces.

Kinnard said that both school's wells would be tested on Monday for the presence of salmonella and rotavirus and the results would be available within a week. She said that no further precautions were needed at the schools.

In a letter to parents of Luxemburg-Casco Middle School students, Michael Snowberry, principal, said "the middle school is required to test our well four times per year and all tests, to date, have been negative for contaminants."

The Department of Natural Resources announced Monday that 11 private wells in Kewaunee County tested positive for salmonella and or rotavirus during a DNR-funded study. The water samples were taken on April 18. The wells were among 30 being tested by the DNR that had previously been identified as contaminated by total coliform or high nitrates.

The contaminated wells were located throughout the county. The county health department is required to send out letters to all property owners with private wells within a half-mile radius of a well that is found to be contaminated with salmonella or rotavirus, Kinnard said. The DNR is offering free test kits to any property owner who receives a letter, Kinnard said.

The exact location of the contaminated wells cannot be disclosed under the terms of the well study, Kinnard said.

No illnesses have been reported in connection with the findings, according to Kinnard.

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